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ABSTRACT

The "art" of investment and the relationships between the cash manager and the outside professionals who implement the steps that entail cash management are the subjects of the 11 chapters of this guide to investing school district funds. Chapter 1 describes the role and responsibility of the small school district cash manager. Chapter 2 discusses the external factors that influence investment. Investment policy is suggested in Chapter 3. Chapters 4, 5, 6, and 7 deal with cash flow forecasting, investment philosophies, investment decision analysis, and investment selection. Chapter 8 considers the costs of doing business and chapter 9 clarifies yield curves and swaps. In the last two chapters, professional financial relationships and the protection of assets are discussed. The conclusion frames the purpose of this book: School district officials are obligated to get the best possible returns and must understand major essentials of the investment process. (JAM)

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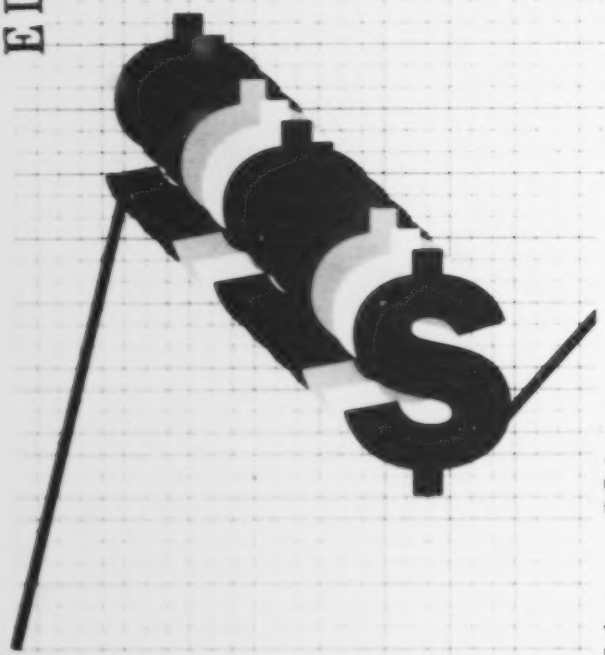
The Art of Investing School District Funds

Rules of The Game



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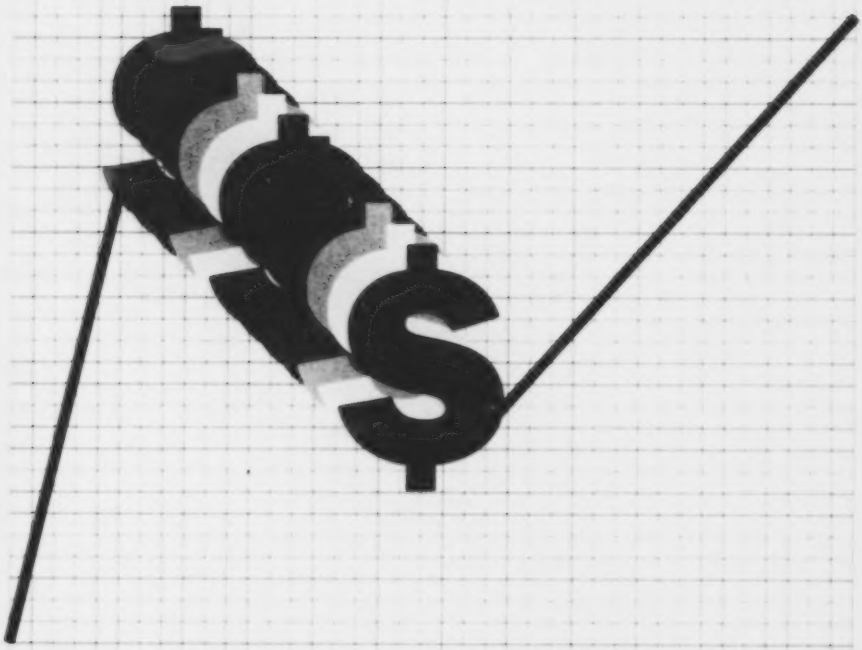

By Jeffrey Flynn

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The Art of Investing School District Funds
The Rules of the Game

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Authors Note

This approach of this text shall be consistent with my standard real life view of cash management as it applies to school business officials. There are not inordinate amounts of detail on specific investments. Rather, I attempted to address investing and the relationships between the cash manager and the outside professionals who implement the steps that entail cash management.

There is an overriding theme that addresses the importance of the cash manager to generate more decisions internally with the appreciation that cash management represents only one of many responsibilities. I believe that if the cash manager understands the roles of the players and the potential areas of liability, a greater confidence in the area of investing can be developd. Many cash managers are suspect of dealers because they are intimidated by some perceived imbalance of investment knowledge. Incredible as it seems, some cash managers are so leery of brokers that given equal rates of return on CDs and T-Bills, CDs would be bought so as to avoid dealing with the broker. If I accomplish anything here, it is to eliminate this feeling by examining the investment process and exposing all of the mysteries.

This text is meant as a guide to becoming more aware...about a lot of things. Not just on safety, liquidity, or yield, a phrase I have grown to despise, but how to play the game.

Acknowledgements

I would like to thank Judy (Touchton) Comeaux for the opportunity to express myself. My wife Lu for her patience in the many hours I spent locked away with pen and head in hand. George Nielsen for showing me what a triple AAA rating meant and Perry Cox for reminding me that there are no shortcuts.

Dedication

I would like to dedicate this effort to my father, Frank J. Flynn. Who pained over the frivolity of easily attained and shallow success and who believed strongly in the paying of ones dues.

About the Author

Jeffery Flynn has gained the experience needed to write this text not through any course of study, but from his actual hands-on experiences as a stock broker. His specialty for eight of his twelve years as a broker (1976-1987), was in fixed income investments for municipal cash managers. Jeff became successful through educating his clients as the actual investment process took place. He became the youngest ever Senior Vice President of the primary dealer firm he worked for. In 1982, he began teaching cash management to municipal associations such as GFOA, MTA and ASBO. He also wrote a monthly fixed income newsletter which became popular for its accuracy and style.

He left the brokerage business in 1987 to develop a new company that he and a partner founded. Their company, TRACS designed and develop a cash management software which, like the seminar, provides a user friendly access to detailed investment analysis.

Jeff publishes a monthly investment column for ASBO International's magazine, School Business Affairs, which began in November of 1987. The column, The Public Interest, is an extension of Jeff's typical open style. It aims directly at ways to avoid problems while enhancing investment performance for the average cash manager. He also writes for the monthly New York ASBO magazine. In addition to his publications, he provides TRACS clients with a personalized monthly newsletter called Dollars & Sense. In this newsletter, the TRACS clientele is provided with a free-form analysis of current market conditions and given more specific input on investment opportunities.

Jeff continues to "perform" cash management seminars for GFOA and ASBO throughout the United States. His experiences as a broker and knowledge of the markets enables him to deliver his audiences a fresh and accurate real life approach to cash management. More important perhaps, is his appreciation of the responsibilities, fears, and insecurities of the school business official. He has a unique ability to gain confidence through successfully easing these concerns in the area of investments.

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Chapter 1

The Small School District Cash Manager

The information presented in these chapters can be useful to all cash managers. It is important that you have some insights on how the school district account is viewed by those who supply you with the investments and information about the markets. The small school district (SSD) cash manager however, is quite different than his/her counter part at the large school district. While it is useful to know some of these investing details, the fact is that the smaller districts have less personnel, smaller portfolios and more restrictive politics to deal with. Large districts have assistant superintendents for business, finance directors, business managers and so on, each handling various duties such as payrolls, payables, invoices, labor negotiations, etc. Small districts generally have one person doing all these duties. These duties are on a much smaller scale but nontheless require attention and accuracy. There is no one to delegate to and the job of investing represents only one of dozens of such responsibilities. The portfolio is generally small and seemingly insignificant. But on a relative scale, an extra half point of interest is just as important on one million dollars as it is on one hundred million, right?

The options open for the SSD cash manager are generally more restrictive and can be limited to only the purchase of certificates of deposit. Politically, these cash managers may be held to a local investing mentality due to pressures and directives placed on them by local institutions or by the intimidation of state government.

This cash manager generally has to play a different political game than the larger district cash manager. Unlike larger city schools, small towns and their districts generally have only one or two banking institutions in their vicinity. Brokerage firms, if present at all, are generally small regional secondary dealers. These banks represent a significant influence and carry a lot of clout in so far as business in these towns is concerned. Likewise, the school district employs a fairly significant percentage of local residents and also collects and spends significant amounts of local revenue. The one or two banks also pay taxes and often replace the football scoreboards. Board meetings are attended by townspeople who are familiar with each other and such meetings often find attendance by an easily

identifiable group of continually concerned parents. Such is the fabric of a vast majority of smaller school districts throughout the county.

These banks we mention often have some key officials represented on these respective boards. Their presence can be quite influential as investing and investment policy is concerned. When you combine this influence to keep all funds invested locally and throw in the limited amount of time this small district cash manager has to spend on investing, you end up with the banks directing the investments of the district. Often, the districts investment policy is written to exclude all investments other than local CDs.

With an understanding and a genuine appreciation of this set of realities, there are several potential problem areas that a small school district faces when doing business in this fashion. There are several easy exercises that can be applied, given the limited investment options available to this cash manager, to maximize investment returns. Finally, there are different strategies available and a couple of easily defensible investment alternatives accessible that should fly politically. We shall identify these areas by title.

Potential Problem Areas for Small School Districts

The sweet heart bank deal

There has been a growth in the investing acumen of the general public over the past decade. I suppose the maturing baby boomer turned yuppie has added awareness of T-Bill rates and BMW resale values. In any event, more people are aware of what so-called "acceptable" rates of return entail. Furthermore, the advent of bond arbitrage restriction has created both earnings caps and fear to become immeshed in the area of cash management. I have heard many experts address this issue and still find it to be a make-work project lobbied for by the accounting firms. The public awareness has brought well targeted scrutiny to the investment returns being generated by school district portfolios.

The T-Bill is considered to be the safest most liquid investment available today. It is quite interesting then to see some banks paying CD rates that are lower than the corresponding yield on T-Bills of equal maturity. The bank could then simply reinvest your districts funds in those same T-Bills and earn the spread for themselves. They might also encourage you to keep some quantity of funds in a very liquid sweep checking account paying some low savings rate while reinvesting themselves in overnight repurchase agreements. The point to this is that both you and the bank could one day face the embarrassment of explaining how such

underinvesting was permitted and what could possibly "encourage" the school official into allowing such a sweetheart deal. C.Y.A. tip #1. Discuss this with your banker. Try not to keep excess funds in sweep accounts. Good cash flow forecasts should help eliminate the concern for liquidity. Also, try to arrange for, at minimum, T-Bill rates for CDs or even perhaps a flat spread over the T-Bill yield.

For example:

0-30 days	30 day T-Bill rate + 5 basis points
30-90 days	60 day T-Bill + 10
90-180 days	90 day T-Bill + 15

and so on. If the banker can not pay these rates, perhaps your investment policy could be amended allowing the banker to purchase the T-Bills for you directly and hold them for you in a segregated safekeeping account. Some small districts word their policy as to give the banker first right of refusal to meet certain levels. If the bank opts to pass, the district can then purchase Treasury issues as it chooses. At least you will avoid the sweetheart dilemma.

This same underinvesting problem applies to bond arbitrage accounts. If you are fearful of exceeding the allowable level of return, some are tempted to invest in savings accounts or to direct purchase investments at rates below those available. This too promises to elicit scrutiny. Bond arbitrage assumes an averaged weighted return over a five year period, with exceptions. I encourage you to earn every penny possible and let Uncle Sam have whatever is earned in excess. You chance less hassle in meeting your limit and paying the Feds instead of undershooting the allowable amount and risking liability questions.

In fairness, I have seen some banks pay rates for CDs that were at times substantially higher than any investment possible, including Treasury and Agency issues.

Solutions

Ask your dealer to tell you what corresponding T-Bills and Treasury Notes are currently yielding. You are often too busy or are not familiar as to where these rates are quoted. They are in the third section of the Wall Street Journal on a daily basis. You might ask you dealer to show you where these yields are listed if you like, so that there is no sur-

prise when you drop this question on the bank and ask for a comparison of rates. You might also keep a record of the weekly yield on a benchmarks issue like the 90 day T-Bill rate. Benchmarks are discussed in this text.

The Rip Off

The average cash manager in any size district can at times be unaware of what rates of return are really available. Some are also under some strange belief as to the order of safety of various investment alternatives. The combination of these two issues can lead to poor investment decisions and selections. (Here's what I mean and this is based on a real situation.)

SBA loans are a security which is guaranteed by the Federal Government. They usually pay prime rate plus or minus depending on price. Par or even units of $1000 could be at premiums ($1,030) for prime plus a percentage or at discounts ($950.00) for prime minus some percentage. However, SBAs are generally long term issues of ten years or even thirty year maturities. They can be sold by the lesser scrupulous as being totally liquid, guaranteed, and who knows what else. It so happens that this long term paper can carry commission of as much as $30,000 per million while only effecting the yield by less than one percent.

Solution

Try to become more familiar with the generally accepted perception of safety. Be sure to know that the only reason why some things pay more than others is generally due to risk.

Liquidity and safety = yield. If you give up some of the liquidity and safety you are rewarded with greater yield. Most of the districts I know who bought SBAs, were underwater or lost money the minute they said yes to the salesperson. They were sold far below their rightful place, high atop the yield ladder. But because the officials were unaware of what such guaranteed paper "should" pay or were unfamiliar with the investment all together, they were burned. C.Y.A. tip #2. If you don't know it closeup and personally or can't hold it to maturity, don't own it. C.Y.A. tip #3. "Know thy broker", as Linda Patterson of Fort Worth says. Be sure of who you are dealing with and have them sign a statement guaranteeing to conform to the letter of your investment policy.

Investment Pitfalls for SSDs

Most of these cash managers do not have the portfolio size to allow for what is referred to as a round lot transaction. This means a face amount of $1,000,000 or more. In order to achieve good diversification,

many smaller amounts should be invested so that three or four separate investments are made with a million dollars. A portfolio which has four million dollars should ideally have 16 separate investment positions so that not all of the eggs are in one basket. However, when purchasing $250,000 pieces of securities like T-Bills or agency discount notes, transaction costs can be added which can greatly effect the yields of such investments. Therefore by default, SSDs buying "odd lots" can mean that real at-the-market yields are not being received.

Buying $100,000 CD positions from a variety of issuers assures both insurance protection and return protection since this amount is considered to be a substantial purchase and is covered under Federal Insurance. The same amount of purchase is not always considered however to be a substantive purchase for other securities. A special note of interest: smaller purchases of $100,00.00 can be accomplished with investments involving high commission items such as Ginnie Maes, CMOs, SBAs, negotiable CDs, mutual funds, and corporate notes, to name a few. Interesting that the "odd lot" yield differential is abandoned when dealing with long term, price volatile high commission securities. I'll let you read into why this exception exists.

Solution

You can try to have the bank or broker purchase special inventory items that can be bought in odd lot. Often times, either may already own such pieces in odd lot amounts. You could potentially purchase smaller pieces at round lot prices. It doesn't happen often but if you develop a good relationship with your dealer, they could watch for such items.

Another related item to this issue presents the grim reality of the securities business. These small trades that are priced at the market have very small commissions attached to them. Chances are that few brokers are going to go to any extreme in helping you find great deals because the better your returns, the lower their commissions. For similar time spent, they could earn five times the commission for a large transaction. You would be best to stay with the banker who can find you better yields. They can purchase one large piece and break it up, sell inventory they already own and may be in a more powerful position to get very competitive offerings. Some brokers see the bank as a more valuable investment for them as far as time/effort is concerned. The other alternative is to use a broker that specializes in municipal accounts and does business with many of them. Often, these specialists have larger client bases due to the fact that they have earned such clients with excellent service and tend to pursue a small commission amount-volume approach over the one or two home runs approach by some others. Call a large school district cash manager in your state and ask who they deal with the most. You could probably get the best person available for the job. Then be-

tween the local banker's effort to keep a lock on your business and the brokers need to do business with most of the municipalities with a region, you should get better yields.

There is life beyond the CD. For the SSD cash manager, you should have access to Treasury Bills and Notes, state investment pools, and repurchase agreements. A combination of these options in various proportion should provide you with diversification, liquidity and safety. Based on either cash flow needs or yield curves, you could weight your portfolio with the appropriate investment. If you assemble the legal options and discuss them with your dealer, you could begin to implement a better portfolio, potentially increase your returns, and invest like larger districts do.

Investment Relationships

I suppose that the issue of the relationship of SSDs with the local bank is not often addressed because the cash manager perceives this relationship as crucially valuable. In fact, some cash managers I have known get down right defensive when this relationship comes under any sort of inspection. The reality of this relationship is that the money the bank places into CDs and the money the bank makes as a result can represent a substantial percentage of the banks total earnings. It is no wonder why this relation is a touchy subject for the banker or why such measures are taken to protect this relationship.

The SSD also takes on a great value for some of the brokerage firms marketing "exotic" investments. These brokers prey upon the unsuspecting cash manager who is trying to earn just a little more for the portfolio. The broker knows that some SSD cash managers do not have the level of expertise to determine a good deal from a bad one but make these attempted sales knowing that the cash manager has a deep desire to earn the best rates.

Occasionally enough, they hit successfully on the emotion of greed and another potential horror story is in the making. In this case, the banker appears to be the knight in shining armor. I also agree that the local banker should act to oversee and protect the SSD cash manager. In this regard, the banks expertise is the best available in the small community and should be sought after by the SSD in all matters of investing. However, if the bank is discouraging new investment practices which are safe and prudent in order to keep a lock on the schools business, then I believe they are over stepping their boundaries and unfairly usurping their fiduciary responsibilities.

To be honest, the small municipal cash manager is seen by many as a target. Due to the "jack of all" trade mark, and lack of some experi-

ence in certain areas like cash management, SSD cash managers can be considered easy prey. There are some brokerages who only contact very small municipalities. Obviously there is not a volume business to be done but rather the occasional "large pop" that justifies such an approach and persistence.

The best of all worlds for this type of account would be that the bank would diversify the SSD portfolio. Some CDs, Repos, Treasuries, Agencies, State Pools, etc. If that is what you have going, you are being well cared for. If your portfolio has only one type of investment in it, I would suggest that a meeting take place to ask why.

Chapter 2

The Current State Of Affairs

Life for the money manager has greatly changed recently, because of a new political atmosphere as well as a new investment climate. The changes affect everyone entrusted with overseeing the investment of public funds. Public officials who administer the education system especially labor under increasing scrutiny by the public.

Many converging factors have caused these changes. The deregulation of business during the eighties seemed to lead to affluence in the public sector that few expected to end. But the record-setting expansion of the post-Vietnam economy was mostly at the expense of record federal deficits. The collapse of institutions like Lombard-Wall, E.S.M., and E. F. Hutton signalled that tough times lie ahead. The Crash of '87 proved that the balloon could burst, and it is not yet certain that the crash was not a smaller tremor before the quake.

For the public officials who were managing the finances of the education system, things were easier in the past. Inflation assured continually rising property values; tax levies remained constant; excessive portfolio earnings allowed for the funding of new programs and the hiring of new people; and the tax base increased continually. In short, to everyone's delight, things seemed to be on automatic pilot. To complement all of this, the banks (which are the source of well over half of the end investments used by officials) were in excellent financial condition. Rates of return on investments were usually understated in budget projections, leaving plenty of cushion for the cash manager to meet any surprise financial shortfalls. All this created a relatively easy investing environment.

Today, however, things are different. "Rolling recessions" have cut deeply into property values and assessed valuations, creating the need for increases in tax levies. In the restrictive tax mood of the late eighties, this has caused new political pressures for the public official. The country, once economically effected as a complete unit, now seems to experience these rolling recessions regionally, making it even more difficult to forecast any specific economic future and its impact on the budget. Oil patch economics like Houston and Denver suffer while business and tourism in the northeast coast and California prosper. Low rates of return reduces revenue that can be collectively used for expenditures. This can make the cash manager stretch for returns that may cause liquidity problems. These problems can lead to losses of not only principal but may also threaten the job security of the official. Many municipal cash managers across the nation have come under fire as a result of problems to their portfolios. Not all of these problems have been attributable to a negligence factor, but may have been due impart to an increasing frequency of financial instability. Such instability within the banking community caught many officials off guard. Examine for yourself the following data which addresses the condition of the financial community as it exists today.

1987 - 207 banks failed - A post-depression record

1988 - The current FSLIC caseload of insolvent banks is now 259

- An additional 510 are considered insolvent by generally accepted accounting principles but are considered too expensive to add to the caseload.

- As of June 1988, 769 banks are losing $50 million daily.

- Estimated cost of total bailout = $30-$100 billion.

- The FSLIC does have the ability to draw on the treasury but only up to $750 million.

- The General Accounting Office has declared the FSLIC insol vent. (Negative net worth of $13.7 billion.)

- 9 of 11 Money Center banks have 277% of their corporate equity loaned to LDC's .

1989 - From December 1988 - March 1989, massive withdrawals of deposits have occurred. February alone saw over $12 billion dollars leave Savings & Loan Association. This was up $7 billion in January 1989.

Problems that occurred for some officials were due largely to the lack of regulation and documentation which could have been used to protect the unsuspecting cash manager. Problems arose as a result of financial instability but were also due to improper investments being sold to the public official. These might have been uncollateralized repurchase agreements or long-term investments which are subject to erratic price movement and volatility.

Because of these problems, the pendulum would soon swing. The result was a flood of regulations handed down by governing boards finally moved to act by portfolio losses and by taxpayer outcry. Politically these actions were timely but were perhaps overdone as most knee jerk style reactions often are. The changes that occurred would have been less of a shock to the public official had they been feathered in over a longer period of time. Investment regulations changed almost overnight, shocking many officials, even though many of these changes were critically necessary. Thus the cash manager had to face many new obstacles to the old, comfortable way of doing things.

Today, many cash managers succumb to the pressures, throw their hands up in frustration, and give up on the investment process in favor of attending to their many other duties. Yet many officials want to obtain the best possible investment returns, despite the new obstacles. They want to earn the best possible returns within the parameters of safety, liquidity, legality, and yield. The question then becomes rather simple: given all the changes outlined above, does the official give the investment process an all-out effort or simply a passive attempt? Clearly, the official stands to lose more from an aggressive approach that fails than from a passive attempt that accomplishes little.

The future does not promise an easier investment climate. Federal deficits will continue to consume advances made in the gross national product (the growth in output of goods and services). The cost of financing this red ink continues to undermine productivity. To make matters more tenuous, the savings and loan industry is said to be broke.

This chapter on investing will attempt to work within the framework that has been laid out for today's municipal officials, and to suggest ways to invest aggressively without assuming greater risks and time requirements than before. The approach in this book will not be an extremely technical one, mainly because the author does not consider him-

self to be an authority on every technical aspect of the investment game. Rather, the approach will be derived from the author's experience as a broker specializing in investing, recommending strategy, and implementing strategy in the field of public portfolio investment. Many of the views and investment philosophies contained herein have been used over long periods of time.

The book also will address basic investment approaches and philosophies which will provide insight into time- and cost-effective ways to achieve better returns. Many cash managers that I have contact with indicate that many of the investment seminars they attend or publications they read deal with complex strategy. What the investment manager really needs is simply to know what investment options are open to the public official. Much of the information can disappoint the official discovering that much of the material presented was difficult to understand. This chapter will keep this in mind and attempt to present basic philosophies and support them with practices designed to create a usable methodology to investing.

Most public officials use the Certificate of Deposit (C.D.) as their primary investment. I estimate that 70% of investments made by municipal investment managers are in CDs. Therefore, many examples will detail and include the C.D. as a basis of comparison for other investments. Many state investment regulations (to be addressed later) allow only C.D. investments; thus, the focus on them here. In addition, making investment decisions is only one of many of the official's duties; saving time is an important consideration in the investment process. If maximizing returns takes an inordinate amount of time within an official's responsibility, other areas may suffer. Finally, cost is an important element. Several cost-saving measures will be addressed. After all, lower transaction costs means that greater returns end up on the bottom line.

In summary, this chapter shall address the investment process for today's school business official. Special attention will be given to the investment environment as it effects the school business officials approach to investing. Further, it is hoped that old myths about the rigors of investing are dispelled and, in the process, make the investment process enjoyable and challenging. Investing should be approached with several thoughts in mind. One consideration addresses the constant scrutiny from the political arena. This scrutiny preoccupies the official in most every move taken, including investing. For this reason, a theme that will emanate throughout this chapter will be towards assisting the official in the covering of one's assets. Secondly, every official desires to make the best returns possible given safety as the foremost element of investing.

The official knows that they need not be heroes and heroines when it comes to investing public funds. But the same reasons that compel that school official to take on the tasks associated with the job also stir some internal force to do the best job possible for the good of the community, whether it be the safety of the children or the investment returns to the portfolio.

Chapter 3

The Rules Of The Game

Investment Policy

Today's school business official's duties have drastically changed in recent years. Some of these changes were caused by the worsening financial conditions of banking institutions in this country. However, many of these changes may have been the result of the lack of investment guidelines and policies. If some investment practices had been restrained before the collapse of various institutions, many of the losses that have occurred might have been avoided.

The starting point for any discussion about to investing must begin with a formal investment policy. The absence of such policy may be likened to travel without the aid of a map. It was a lack of investment policy that helped create the chaos in the public sector that in turn led to today's investment restrictions. A good investment policy will take into account several factors: state laws and regulations governing public investments; guidelines imposed by local boards which result from board members' attitudes towards the investment process; and, finally, the unique investment talents of the individual public official.

State Laws and Regulations

The problems facing municipal officials in recent times have largely caused the increased demand for formalized investment policies on the state level. Prior to the recent bad times and losses, few states had any form of investment policy. Some excesses of the past (caused by attempts to achieve greater returns) resulted in new state laws that restrict the type of investments that can be made by public officials. These new state laws and policies restrict the official's discretion.

Investment officers were often unaffected because they usually invested in very conservative or short-term investments, such as Certificates of Deposit and T-Bills. But more aggressive — and often more

sophisticated — investment managers could no longer attempt to earn greater returns by methods available under the previous, less structured guidelines. Many investment officials may have had the expertise and sophistication necessary to weigh adequately the risks against rewards. But many officials did not, and their constituents are paying for the miscalculation. As a result, many states implemented a "master policy" guide for municipal cash managers. School officials and others could then either imitate the state policy or instead develop their own investment policies in keeping with the state guidelines set forth.

Under these new policies, investment transactions have changed. Now, a so-called "primary dealer" handles the majority of investment transactions. A primary dealer is a securities firm or bank (a broker dealer) which has met certain capital requirements and has as its comptroller the Federal Reserve. Policies in many states require use of primary dealers under the theory that they would best protect the investment integrity of municipal funds. (E. F. Hutton, incidentally, was a primary dealer.)

Dealers other than primary, now find it increasingly difficult to do business with the public official. Although many excellent broker-dealers are not primary, many new state policies prohibit use of them. Some of these companies were marketing "exotic" securities which had no place in most municipal investment portfolios. These investments promise high yields but also carry high commissions and high risk. Elimination of these types of dealers may prove to be an excellent by-product of stricter state guidelines.

The new state regulations have benefited another link in the financial chain — the local banker. While some officials lost money, or came close to it, local banks asserted astute political timing. The said, "if you would have kept that money in your own back yard, you would not have had any problems." The school board members, meanwhile, were answering calls from the irate voting constituency angered by local headlines.

Board members quickly agreed and perhaps, together with the bank lobby, created an even more restrictive investment policy. Such policy required that most or all investing remain "at or near home." The result of this policy may have greatly effected the investment returns of the municipality. Banks became flush with short-term funds and no longer needed to attract investors with aggressive "at the market" returns. The rates banks paid on monies deposited usually fell as a result, thus in turn affecting returns on investment of public funds. Districts which were required to invest only with local banks (thereby giving the banks a captive market) were probably earning lower rates than they otherwise could have. The local banks, however, could then reinvest the money at higher rates and net a profit in the spreads. This has occurred in several states, as the following statistics show:

Interest Rate Summary 4/7/87

Security Yields			
Fed Funds	6 1/8%		
3 Month T-Bills	5.64%		
6 Month T-Bills	5.90%		
12 Month T-Bills	6.07%		
Repurchase Agreements			
1 Day	6.05%		
7 Day	6.10%		
30 Day	6.10%		
Certificates of Deposit	*1 month*	*3 months*	*6 months*
San Francisco Area	5.80%	5.85%	5.85%
Reno Nevada Area	5.125%	5.125%	5.25%
Phoenix Arizona	5.65%	5.65%	5.75%
Honolulu Hawaii	5.60%	5.60%	5.60%

Keeping in mind the different rates of return among various credit risks, observe that the 30-day repo rate is 97.5 basis points higher in yield than the lowest 30-day C.D. In the 3 month area, the C.D. rates available are roughly equal to the 3 month T-Bill rate. There should be a spread which would benefit the C.D. buyer in the 3 month range, but such a spread does not exist in this example. In the 6-month range, the Nevada C.D. is yielding 65 basis points below that of the 6-month T-Bill. This illustrates that the bank could pay 5.25% for 6 months and re-invest the same proceeds in a 6-month T-Bill and pick up 65 basis point for its own account. Below is another set of statistics bearing out that this disparity may not be an aberration.

Interest Rate Summary 10/6/87

Security Yields

Fed Funds:	7.25%
3 Month T-Bills	6.71%
6 Month T-Bills	7.33%
12 Month T-Bills	7.97%
2 Year T-Notes	8.70%

Repurchase Agreements

1 Day	7.10%
7 Day	7.20%
30 Day	7.30%

Bank Yields

Discount Rate	6.00%
Prime Rate	8.75%

Certificates of Deposit	*1 month*	*3 months*	*6 months*
San Francisco Area	6.30%	6.40%	6.60%
Reno Nevada Area	5.25%	5.50%	5.625%
Phoenix Arizona	6.75%	7.00%	7.125%
Honolulu Hawaii	6.30%	6.50%	6.60%

This set of statistics shows that the 1 month repo is significantly higher than all available 1 month C.D.s. The bank could pick up at least 100 basis points by issuing a 1 month C.D. and reinvesting in the 1

month repo. The balance of the numbers are self-explanatory, supporting the idea that the official should be aware that these differences can occur.

The purpose here is not to criticize bankers or dealers unfairly, but instead to prove the importance of detailed investment policies. An investment policy could outline the investment procedure to be followed in order to attain the best possible returns consistent with the risk acceptable to the investor. The result would be that proper investment procedure would be followed in investing funds. There would ideally be a logical progression of investment criteria leading to the selection of an investment that would be fully defensible under the policy guidelines. The protection offered by a sound investment policy should become apparent as the chapter proceeds.

The laws and policies of your state are, of course, the starting points for any policy you choose to develop. If your state has no policies, you may choose to consult with ASBO International for other appropriate guidelines. You may also wish to discuss the master guidelines with other officials within your district. You may want to modify any guidelines you find, or develop your own policy to reflect your district's investment beliefs and your own individual investment skills.

The Local Board's Role in Setting Investment Policy

One very successful way to explore potential areas of resistance regarding investment policy is to query your own school board members as to their beliefs and concepts regarding investing. The following questionnaire was developd by Perry Cox at Grapevine-Colleyville School District in the Dallas area.

ITEM 1
Which investment objective is most important?

a. Never losing money on the overall portfolio.
b. Never losing money on any investment, no matter how small.
c. Never losing more than $3,000 on any investment.
d. Avoiding bad publicity, regardless of how it comes about.
e. Earning the highest possible return.

ITEM 2
The primary goal of our investment program is

a. safety
b. yield
c. outperforming the market
d. other

ITEM 3
We should invest funds in a way that obtains the highest prudent return, even if that means funds might be invested out of town.

a. true
b. false
c. Out of town investing is okay, but only if money is invested in U. S. government securities.

ITEM 4
Which investment securities do you consider appropriate? (Check as many as apply.)

a. U. S. Treasury Bill
b. Government agency securities.
c. Insured bank CDs.
d. Repurchase agreements, collateralized.
e. I don't know enough about item(s) to offer an opinion.

ITEM 5
I think we also should invest in:

ITEM 6
I think we should not invest public money in:

ITEM 7
Are you willing to budget funds to provide training in investment analysis for our staff?

a. No
b. Only for in-state training programs
c. Only for books and periodicals
d. National training is worthwhile if the program will improve our investment operation.

ITEM 8
Our investment policy should (check those that apply):

a. Delegate significant authority to staff but require that they exer cise prudence and diligence.
b. Attempt to preclude any opportunity for losses by tightly con trolling the list of allowable investments.
c. Seek to maximize return by allowing staff to pursue any reasona ble investment opportunity. d. Require governing body approval of written procedures.

ITEM 9
Our investment performance should be:

a. Comparable to the rate on nationally recognized money market funds.
b. Better than riskless short-term U.S. government securities.
c. The market average, weighted according to our cash flow.
d. Equal to or better than the performance of other governments of our size.

ITEM 10
We should attempt to use our deposits and investments to promote local economic development.

a. Yes
b. No
c. Only if tangible results can be demonstrated.

ITEM 11
I would prefer to review investment reports (check as many as apply):

a. Monthly
b. Quarterly
c. Semiannually
d. Annually

ITEM 12
Investment reports should include (check as many as apply):

a. explanation of recent results
b. current strategies and possible risks
c. listing of each investment
d. categorical summaries of investments
e. performance results
f. earnings compared with budget
g. other _____

ITEM 13
In general, our investment staff should

a. buy and hold securities, and devote time and effort to other pressing tasks.
b. devote time and effort to obtaining safe market yields, and adjust the portfolio periodically when needed.
c. seek low-risk trading opportunities to enhance portfolio income .

The following is a summary and analysis of the board members' responses to the above survey.

Item 1 - Which investment object is most important?

Safety and high yields were very close as the most important objective. Clearly the investment policy should stress safety while permitting opportunities for good investment yields.

Item 2 - Primary goal of our investment program?

Again, safety and yield are very close as the primary goal. This confirms Item 1 analysis.

Item 3 - Invest funds to obtain highest yield even if outside community.

Local investment considerations are not important if yield is reduced.

Item 4 - Investments that are appropriate?

Insured C.D.s, U. S. Treasury Bills and U. S. Agency securities are all considered appropriate. Repurchase agreements seem to need considerable explanation. Repurchase agreements are a vital part of any investment program that favors yield and liquidity as objectives of the program.

Items 5 and 6 - Provides opportunity to identify alternative investment securities or objectionable securities.

Little comment provided. No clearly objectionable securities.

Item 7 - Willingness to budget for investment training.

National training generally acceptable with some reservations. Suggest using board investment committee to review and approve training plan annually.

Item 8 - Investment policy should be what?

A mixture of response here indicates a strong preference for delegation of investment authority while maintaining board control through a restricted list of investment securities and board approval of written procedure. These responses are exactly what were expected and hoped for.

Item 9 - Method of comparing investment performance.

A mixture of responses favor a performance criteria based on risk-

less short-term U. S government securities with some comparison to other standards. All performance standards must be based on reasonably expected rate of return.

Item 10 - Use of investments to promote local economy.
Only if tangible results can be demonstrated. Such investments should be "at the direction" of the full board.

Item 11 - Frequency of investment reports?
Monthly and quarterly reporting strongly favored. Suggest monthly reporting to board members by way of "FYI" and a formal board report quarterly.

Item 12 - Investments reports should include what?
Extensive reporting is required by all. Can comply with reporting requirements monthly and/or quarterly.

Item 13 - Effort of staff in the investment program?
Strong preference for staff to devote time and effort to managing the investment portfolio.

General Analysis

Very briefly, the results of the survey were very positive. The only area of the investment program that will require additional presentation of information is the function and safety of repurchase agreements. This is certainly understandable since these securities are not a "normal" investment instrument for private investors, but are quite normal for public institutions and other investment operations.

The input received in the above sample was valuable in ascertaining the board's basic knowledge and in creating the final investment policy through the combined efforts of everyone involved. Mr. Cox could then meet the criteria set with full confidence that the procedures he used were supported by his board. These efforts culminated in the final adoption of an investment policy that clearly laid out precise measures to be followed whenever investments need to be made. The following was the resulting policy:

GRAPEVINE-COLLEYVILLE I.S.D.
Grapevine, Texas CDA (Local)

INVESTMENT POLICY

SCOPE

This investment policy applies to all financial assets of the Grapevine-Colleyville ISD. These funds are accounted for in the District's Comprehensive Annual Financial Report. In addition, any new fund titles created by the board of trustees, unless specifically exempted, will be covered by this policy. This local policy pertains to the funds and investment instruments permitted by policy CDA. Policy CDA(Local) does not extend the investment authority of any individual beyond the authority specifically stated in CDA, however, this policy does further restrict the authority of the investment officials.

OBJECTIVES

The objectives of the District's investment policy are as follows:

1. Safety OL principal is the foremost objective of the investment policy of Grapevine-Colleyville ISD. Each investment transaction shall seek to first ensure that principal losses are avoided, whether they be from securities defaults or erosion of market value.

2. The District's investment portfolio shall remain sufficiently liquid to enable the District to meet all operating requirements which might be reasonably anticipated.

3. The District's investment portfolio shall be designed with the objective of regularly equalling the average rate of return on three month U.S. treasury bills. This index is considered to be a benchmark for riskless investments and therefore is a minimum standard for the District's portfolio rate of return. The investment program shall seek to augment returns above this threshold while being consistent with risk limitations of the District, the state law restriction, the cash flow characteristic of the District and prudent investment principles.

4. The District's investment portfolio shall be diversified with respect to maturity, security types and/or individual financial institutions to avoid incurring unreasonable or avoidable risks to principal or liquidity of the investments.

5. All participants in the investment process shall seek to act responsibly as custodians of the public trust. With regard to investments of District's funds, employees of the District shall avoid any transaction that might impair public confidence in the District's ability to govern effectively.

PERMISSIBLE INVESTMENTS:

Investment instruments authorized for purchase by the District are limited to:

1. Certain obligations of United States or its agencies and instrumentalities.

a. Treasury bills with maturities of 12 months or less.

b. Treasury bonds with maturities of 18 months or less for investments of funds from debt service and capital improvement accounts and with maturities of 12 months or less for all other investments.

c. U.S. agency notes or bonds listed below with maturities of 18 months or less for debt service and capital improvement accounts and with maturities of 12 months or less for all other funds:

1. Federal Home Loan Banks
2. Federal Home Loan Mortgage Corporation
3. Student Loan Marketing Association
4. Federal National Mortgage Association
5. Other U.S. agency issues when authorized by the Board of Trustee Committee responsible for over- sight of the investment policy. Authorization to invest in other U.S. Agency Issues must be obtained at least annually or more often at the discretion of the Committee. (In no case may investments in this group of instruments exceed 10% of the individual fund's total portfolio.)

2-3. Left blank intentionally.

4. Obligations of agencies, counties, cities and political subdivisions of the State of Texas which have been rated as to investment quality by a nationally recognized investment rating firm and having received a rating of not less than ~A~ of its equivalent. Investments in these investment instruments must have prior approval of the Board of Trustees Committee responsible for oversight of the investments.

5. Insured or collateralized CDs with maturities of twelve months or less.

6. Repurchase Agreements with fixed~maturities of 6 months or less when purchased with the approved Master Repurchase Agreement.

RISK TOLERANCE

The District recognizes that investment risks can result from issuer defaults, market price changes and various technical complications leading to temporary illiquidity. Portfolio diversification is employed as a way to control risk. Investment managers are expected to display prudence in the selection of securities, as a way to minimize default risk. No individual investment transaction shall be undertaken which jeop-

ardizes the total capital position of the overall portfolio. All investment reports shall address whether current investment results have been affected by any of the foregoing risks, and shall explain what actions investment officials have taken to control/correct such risks.

In addition to these general policy considerations, the following specific policies will be strictly observed:

1. All transactions will be executed on a delivery vs. payment basis.
2. The District shall not trade in options or futures contracts.
3. Before accepting funds or engaging in investment transactions with the District, officials of approved depository and securities dealers shall be required to familiarize themselves with the District's investment objectives and constraints.

SAFEKEEPING AND CUSTODY

To protect against potential fraud and embezzlement, the assets of the District shall be secured through third-party custody and safe- keeping procedures shall be reviewed annually by the independent auditor. The independent auditor shall conduct periodic surprise audits of safekeeping and custodial systems.

DELEGATION OF DUTIES AND INTERNAL CONTROLS

Management responsibility for the investment program is hereby delegated to the superintendent or designee, normally the Assistant Superintendent for Operations. A system of internal controls shall be documented in writing. The controls shall be reviewed by the Board of Trustees' Committee responsible for oversight and the District's independent auditor. The controls shall be designed to prevent losses of public funds arising from fraud, employee error, misrepresentation by third parties, unanticipated changes in financial markets, or imprudent actions by employees and officers of the District. Controls deemed most important shall include: discovery of collusion, separation of duties, separation of transactions authority from accounting and record-keeping, custodial safekeeping, avoidance of delivery of bearer-form securities to the District, clear delegation of authority, specific limitations regarding securities losses and remedial action, written confirmation of telephone transactions, limiting the number of authorized investment officials, and documentation of transactions and strategies.

In the event of an extended absence or the replacement of the investment officials, the Superintendent shall conduct the District's investment operation with the aid of an investment service firm or a District administrator of the Superintendent's choice until the Board of Trustees designates an alternate investment officer.

Considering the importance of the investment operation, the investment officials shall endeavor to continually improve his or her knowledge of investment operations and techniques. An annual plan of investment training will be submitted to the Board of Trustees Committee responsible for oversight.

STANDARD OF CARE

Investments shall be made with judgement and care, under circumstances then prevailing, that persons of prudence, discretion and intelli- gence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived. The investment officer acting in accordance with the written policies procedures and applicable law and exercising the standard of care stated above shall be relieved of personal responsibility for an individual investment's credit risk or market price change, provided that deviations from expectations are reported in a timely fashion, and appropriate action is taken to control further adverse effects to the investment.

SECURITIES DEALER

Only the District's official depository or primary government securities dealers as defined by the Federal Reserve may be used when purchasing securities or repurchase agreement.

CERTIFICATES OF DEPOSITS

Placement of collateralized or insured CDs will be based on "the best bid" basis as described in Art. 842a-1 Sec. 3 and Educ. Code 20.42, Certificates of deposit shall be placed with Texas based banks only and when a local bank ties with the best bid the certificates of deposit will be placed with the local bank with the District's depository having first preference as described in Educ. Code Sec. 23.80.

MATURITY

The portfolio average maturity shall not exceed 12 months for investments of Debt Service Funds and Capital Projects Funds. The portfolio average maturity for all other funds shall not exceed 6 months.

It is intended that investments in all funds shall be managed in such a way that any market price losses resulting from interest-rate volatility shall be offset by coupon income and current income received from the balance of the portfolio during a twelve-month period. No maturity extension shall be undertaken if it might result in negative income on the overall fund's portfolio during a given year.

DIVERSIFICATION

Where possible, it is the policy of the District to diversify its investment portfolio. Assets shall be diversified to eliminate the risk of loss resulting from overconcentration of assets in a specific maturity, a specific issuer, or a specific class of securities. In establishing specific diversification strategies, the following general policies and constraints shall apply:

1. Portfolio maturities shall be staggered in a way that avoids undue concentration of assets in a specific maturity sector. Maturities shall be selected which provide stability of income and reasonable liquidity.

2. Liquidity practices to ensure that the next disbursement date and payroll date are covered through maturing invest- ments, marketable U.S. Treasury bills or cash on hand shall be used at all times.

3. Risks of market price volatility shall be controlled through maturity diversification so that aggregate price losses on instruments with maturities approaching one year shall not be greater than coupon interest and investment income received from the balance of the portfolio.

PORTFOLIO REPORTING

The Assistant Superintendent for Operations shall submit a report monthly to the Board of Trustees and the Superintendent which lists current investments, matured investments for the month, type of security, interest rate of each security, anticipated interest on each security and other detail as may be required by the Board of Trustees.

The Assistant Superintendent for Operations shall submit quarterly an investment report that summarizes recent market conditions, economic developments and anticipated investment conditions to the Superintendent and the Board of Trustees. The report shall also summarize the investment strategies employed in the most recent quarter, and describe the investment portfolio in terms of investment securities, maturities, financial institutions from whom securities were purchased, investment return compared to budgetary expectations, average yield, and average life of the portfolio. Each quarterly report shall indicate any areas of policy concern and suggested or planned revision of investment strategies. Copies shall be transmitted to the indePendent auditor.

CONCLUSION

In conclusion, whether you have a large investment staff or work alone, a sound investment policy will give you a solid game plan for investing. If you follow that policy closely and if you include others in its creation, you diminish the likelihood of negative results.

CHAPTER 4

CASH FLOW FORECASTING

After the investment policy has been fully developd, given the parameters of safety, liquidity, and yield, you are ready to enter into the next realm of the investment process, Cash Flow Forecasting.

Cash flow forecasting is the first step in the development of a successful investment program. You might consider using several steps to assist in the forecasting of cash needs during the coming fiscal year:

1. Before you put together any numbers, consult business professionals in your area about the coming year's economic outlook. (They usually love to help in the community and generally have a strong desire to contribute in any way possible.) Their insights could be helpful. Summarize the information and use it as backup for your reports.

2. Seek similar counsel from local real estate experts. The emergence of "regional recessions" has made predicting revenues more difficult. Their input would be valuable. Their input will also help prepare your school boards for any preparatory work that will be needed if levy increases appear to be necessary. The boards will appreciate your due diligence and your inclusion of the "locals" in your planning. The experts always enjoy contributing in their area of expertise.

3. Review general ledger records for the past three years to get a feel for consistent timing and trends of expenses and revenues. The ability to invest farther out along the yield curve usually rewards the investor with higher yields. This is due to the yield curve phenomenon which shall be addressed later. If the amount of revenues to be taken in and expenses to be paid can be approximately determined, only one piece of the puzzle remains. To find investments in the amounts of the expenditures which have maturities that correspond to the dates of the anticipated expense. If these steps were to be accomplished, the school business official could place those revenues into the appropriate investments, lock up

yields at the dates the district receipted in the revenue, and totally define the portfolio's earnings for the coming fiscal year. This process also allows precise calculation of the actual earnings that could be expected which could help you more accurately meet budget forecasts.

Cash flow Forecasting, as mentioned earlier, is an important component to the investment process. The absence of a forecast creates the need to invest in very short term investments. This occurs because the cash manager places a high priority upon liquidity in order to compensate for the lack of the future prediction as to when funds will actually be spent. The cost of that liquidity is generally the give up of yield. The yields associated with these shorter term investments are often lower than in longer term investments so the overall return generated in the portfolio can be greatly affected. By longer term, I mean six months instead of one month.

The formation of a cash flow forecast is by no means a mystery. The forecast simply comes from patterns of revenues and expenditures that have occurred in the past. For example, if your school district's past three year's first quarter light bill was $100,000, $120,000 and $110,000 respectively, you would estimate that the first quarter light bill for 1989 would be about $110,000 . If your district has added additional buildings, the calculation could go further. The actual square footage of applicable space could be divided into the quarterly expense. This would give you a per square footage expense which could be multiplied by the new square footage added for a forecasted new first quarter expense total. Any other difference would therefore most likely come from rate changes charged.

The same theory also applies to all other expenses and revenues. Many school districts have very predictable monthly salaries. They also have predictable periods of revenue. These are generally property taxes or state subsidies which come from the local or state government. On the revenue side, these funds are often distributed once or twice during the year. These revenues must then be invested throughout the coming year in order to meet the expenditures for which they are intended. It seems inappropriate to invest revenues in spring maturities when such revenues are needed to meet expenses in the fall.

The investment of funds can be categorized into three basic philosophies. The "matching" philosophy represents just one of the three but is considered to be the most conservative. We will use this one for the following study. The other two will be covered shortly, but let's build a sample cash flow forecast and examine the benefits.

The forecast of the future can be most accurately predicted by examining the frequency of numbers that have occurred in the past. The light bill example is a simplistic way of showing the predictability of future cash flows. The official should have past records of all cash that has been paid out of the districts account and records of all revenues that have come into the account. The job of re-entering all of these items is time consuming but the accounting could be done by taking all expenses and revenues in each of the past two years and averaging each item by the week or month. The result will provide a forecast of the coming years expenses and revenues. From this data, the official could then invest accordingly. The matching of maturing investments with anticipated expenses as mentioned, offers a very conservative approach and makes the least aggressive statement as to which direction interest rates are headed. The official could fine tune expense and revenue records by the day, week, or month, depending on the level of accuracy desired. The following chart is an example of a monthly approach for a six month period.

Chart A

1987 Revenues

	January	February	March	April	May	June
Taxes:	780,000	2,436,500	3,245,900	1,900,890	1,197,000	100,230
Tuition:	94,000	100,500	75,000	87,305	50,000	0
Interest:	184,000	200,000	156,000	180,900	95,000	49,000
Concessions:	64,900	63,000	45,900	35,300	40,000	37,000
Tickets/Sports:	6,500	4,900	9,789	4,981	1,900	3,566
Contributions:	1,988	3,200	1,988	2,600	2,890	2,390
Totals:	1,131,388	2,808,100	3,534,577	2,211,976	1,386,790	192,186

This is, of course, a short vision of the types of revenue sources that flow into a district's account. However, the official can list these sources along the left margin and then record the receipts that occurred in each category.

The same format can be used to detail past expenses. By simply writing down every major expense category and recording past monthly or weekly figures for the expenses, an expense forecast can be determined. The averaging of these past figures will provide a picture of anticipated expenses for the coming year. (See Chart B on following page)

Chart B
1987 Expenses

	January	February	March	April	May	June
Salaries:	1,304,007	1,256,765	1,277,108	1,693,112	1,253,546	1,226,632
Wages:	72,000	71,500	70,422	82,000	71,611	67,300
Utilities:	16,450	17,950,	18,000	22,000	18,800	17,600
Banking costs:	23,715	23,456	13,932	15,337	13,492	21,037
Bus maintenance:	3,000	4,500	5,000	5,500	6,999	3,545
Retirement:	65,000	63,500	64,000	75,100	65,450	60,230
Insurance:	15,500	13,700	15,000	18,000	14,000	13,500
Other:	165	1,270	200	175	200	125
Totals:	1,499,837	1,452,641	1,463,662	1,911,224	1,444,098	1,409,969

The following chart shows two previous years monthly revenues and provides a monthly estimate of revenues that can be expected for the coming year.

Chart C

	1987 Revenues	1988 Revenues	1989 Anticipated
January:	1,131,388	1,215,000	1,173,194
February:	2,808,100	2,910,200	2,859,150
March:	3,534,577	2,999,900	3,267,239
April:	2,211,976	2,350,003	2,280,989
May:	1,386,790	1,450,200	1,418,495
June:	192,186	195,290	193,738

Likewise, the collection of past expense detail can be averaged to provide expenses anticipated for the coming year.

Chart D

	1987 Expenses	1988 Expenses	1989 Anticipated
January:	1,499,837	1,541,380	1,520,609
February:	1,452,641	1,675,884	1,564,263
March:	1,463,662	1,511,400	1,487,531
April:	1,911,224	1,838,705	1,874,965
May:	1,444,098	1,530,978	1,487,538
June:	1,409,969	1,410,560	1,410,265

What results from the averaging of past expenses and revenues is a month by month match-up of expected totals. There are many useful ways for these figures to be utilized by the official. Let's look at the forecasted totals and then draw some conclusions as to how such a forecast can help in several decision-making processes.

Month	1989 Anticipated Expenses	1989 Anticipated Revenue
January	1,520,609	1,173,194
February	1,564,263	2,859,150
March	1,487,531	3,267,239
April	1,874,965	2,280,989
May	1,487,538	1,418,495
June	1,410,265	193,738

As you can see, there is a short fall of $347,415 in January. This would allow the official to plan a delay in the payment of some expenses or to make up for the short fall by finding other funds. It should be obvious that the official can make investments from the revenues to cover the expenses but there is another theme to address. There are excess revenues in these early months. How then are these excess revenues to be invested, what are the options open to the official, and how will the selection of various options affect the overall investment returns of the portfolio?

As mentioned earlier, a matching philosophy requires that money is invested at amounts equaling the anticipated expenses. If that matching approach is applied with our cash flow forecast, what results is an excess of revenues. Furthermore, it may be that there is a cash flow carried forward from the previous year. There may be a portfolio of investments in place which will mature in the early months of the new year, thus meeting anticipated expenses. Revenue could be invested out even further into the coming year. This occurrence now creates an investing philosophy question faced by every school official in the country. How do we invest excess revenues and how will our returns be affected by the decision?

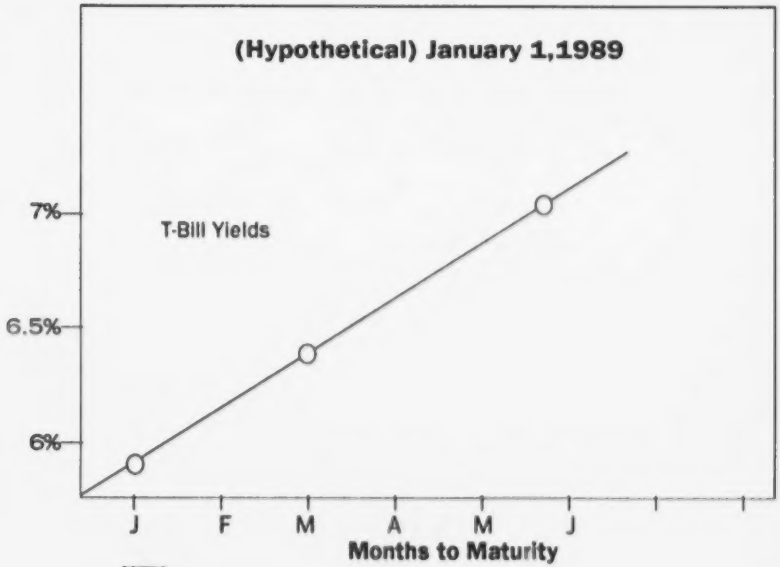
The overwhelming number of officials in the U.S. invest those excess funds in overly liquid very short term investments. These investments are usually "local certificates of deposit" and also are often at lower rates of return. These excess funds are also often kept in checking accounts at these local banks or other similar institutions and may not be paying interest. It is difficult to imagine how much national school revenue sits idle or earns sub standard rates of return. The amount is in the billions and delights the bank in the returns made with this free money.

What is confusing is that the official generally knows that the excess funds that are placed in these short term investments will not be used in the near future. The cash flow forecast, if prepared, will prove this fact. However, excess funds continue to remain in short term investments. I suppose this phenomenon is human nature. It is natural to want a "warm fuzzy" feeling in knowing that the district has excellent liquidity in the event that emergency expenses arise. But, almost 80% of a school budget gives toward salaries and wages so it seems unlikely that such emergencies would require such liquidity.

The cash flow forecast is essential if a pure matching philosophy is to be followed. In addition, the forecast must be accurate, dependable and then trusted. The lack of a forecast or the failure to follow what a forecast provides has resulted in the extreme over liquidity posture of most municipal investment funds today. This is not intended to mean that excess funds should be invested in long term investments such as Ginnie Maes.

But it should become more apparent that more can be done to increase investment returns to the school system with the aid of tools such as the cash flow forecast. Let's look at how, in a normal upward sloping curve environment, that extra basis points can be made when a good forecast is prepared, allowing a matching approach.

The yield curve represents a picture of what rates are available to an investor at any given period. The chart below is a yield curve showing what Treasury Bill yields could be bought by an investor and we will assume a standard ascending rate environment exists.



KEY
January= 6%
March = 6.5%
June = 7%

As you can see, the yield available for a 1 month T-Bill is 6%, 6 1/2 for 3 months and 7% for 6 months. The reason this chart has been used is to show that if the official has prepared a cash flow forecast and invests in longer than 30 day paper, better returns result. These philosophies and their impact to rates of return will be developd in the following chapter.

The official who develops a forecast and who matches investments with expenses could accomplish the majority of required investing for the year in a relatively short period of time. We know that most officials receive the coming years revenue in a matter of a couple of months. The forecast would dictate how much money is required to be invested for each week or month of the coming year. As revenue becomes available, each of the months would receive the appropriate amount of maturing investment totals until the year was completed.

Hypothetical Investment Portfolio
Based on Cash Flow Forecast

	Amount Needed	**Investment**
January	1,520,609	1,600,000
February	1,564,263	1,600,000
March	1,487,531	1,500,000
	Yield	**Maturity**
U.S. T-Bill	6%	1-15-89
U.S. Treasury Note	6 1/4%	2-15-89
Certificate Of Deposit	6 3/4%	3-10-89

Any excesses could be placed in other appropriate vehicles. If all of the months are not filled with enough maturing investments, a spread sheet listing short falls could alert the official as to where other revenue to be received later, should be invested. This completes the basics of the cash flow forecast and investment process. What differentiates various levels of investment skills between officials is what takes place after the cash flow forecast is prepared. The balance of this effort will address ways to reach higher levels of expertise.

The lack of a cash flow forecast, as we have shown, generally

means hat investing will occur in the short end of the maturity scale. These investments which are short termed may be made with funds that could be invested into longer termed maturities. The business official risks being criticized for earning returns which are lower rates then are readily available in today's market. This exposure could be due to a overly liquid portfolio or to purchasing investments which are below real market levels. An example of this can be shown where due to arbitrage restriction an official allows an investment to be made which is below the real market return. This may be done in an attempt to come in below a bond arbitrage limit. However, investing in securities such as certificates of deposits that are paying yields below that of treasury bills may be viewed in the future as an imprudent investment. Uncollateralized repos fostered criticism in the 80's. Earning sub-market investment returns will generate equal criticism in the 90's. The leading factor for sub-standard investment returns may be the lack of a trusted cash flow forecast. Creating a forecast will allow the cash manager to invest more accurately and will support all investment decisions that are made.

The investment process cannot be examined in the light of the simple placement of cash into securities unless it is combined with an accurate projection as to exactly when it is that the cash will be needed. Together, these two elements of the investment process should save the official time and reward the district with greater returns while maintaining the conservative safety that these volatile times have forced upon us.

Chapter 5

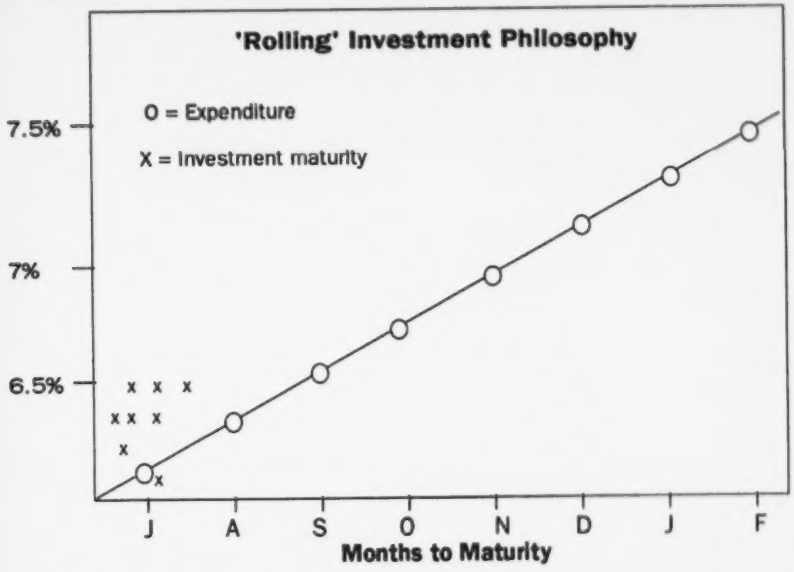
Investment Philosophy

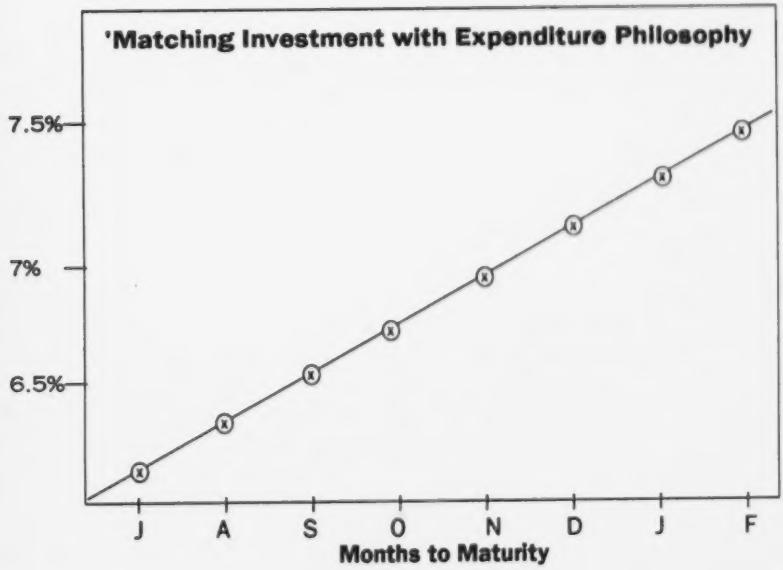
Dictated Directly by Cash Flow Forecast Accuracy

Previously, we have discussed cash flow forecasting as an integral prerequisite to the actual investment process. The investor who does not, or cannot, accurately forecast the date that cash will be needed will be forced to keep funds in very short-term instruments in order to meet unexpected cash outlays. This approach results in an overly liquid short-term portfolio of investments such as 3-month C.D.s and repurchase agreements. These investments require constant attention in order to roll over the securities as they mature. The manager thus spends more time on the investment function, while cash may sit idle in an overnight account at a local bank. Returns are generally very low in these short-term vehicles, thereby lowering investment returns for the whole portfolio. (See the "Rolling" Investment Philosophy graph on next page)

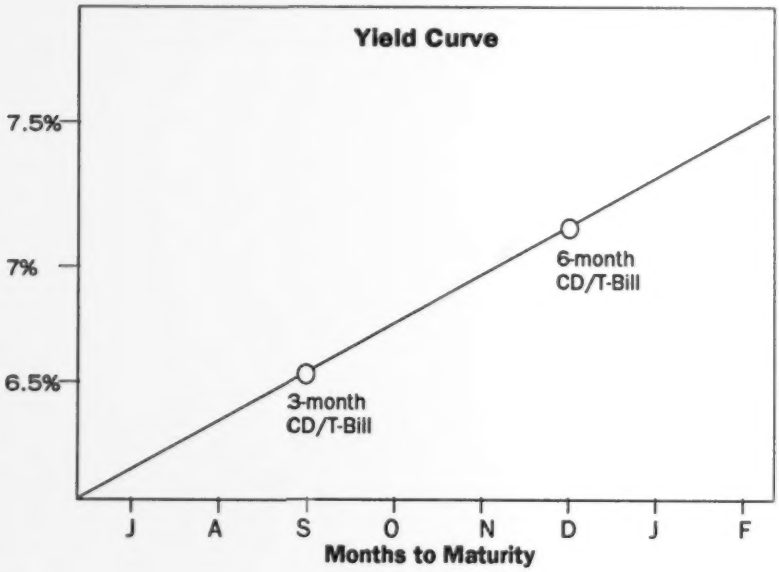
Generally, the more precise the cash flow forecast, the higher the returns and the less time spent in the constant roll- over process. This result is attributable due to the yield curve phenomenon, which rewards the extension of investment maturities with higher rates of return when a normal upward sloping curve exists. The graph on "Matching" Investment with Expenditure Policy (next page) demonstrates the yields available by "matching" investment maturities with anticipated expenditures. Accuracy is critical to assure that ample amounts of cash become available to meet expenditures. Therefore, this approach only works when a serious cash flow forecast is prepared.

These investment approaches are the two most common methods used by municipal cash managers. Most people believe that the rolling approach is more conservative; however, generally quite the opposite is true. Furthermore, selling investments before they mature is a potential way to earn additional basis points from an existing investment portfolio. This option may complement the matching approach and will be explained more fully later.


'Rolling' Investment Philosophy
O = Expenditure
X = Investment maturity
7.5%
7%
6.5%
J
A
S
O
N
D
J
F
Months to Maturity


'Matching Investment with Expenditure Philosophy
7.5%
7%
6.5%
J
A
S
O
N
D
J
F
Months to Maturity

Every investment approach represents a statement of the investor's expectations about interest rates. While commonly thought to be highly conservative, the rolling approach is, in reality, generally a radical investment strategy. The following example is proof: Assume that you have one million dollars to invest for six months. Based on the yield curve below showing available T-Bill yields, you could purchase the six-month C.D. for a 7% return and hold it to maturity.



You could also purchase the three-month T-Bill at 6-1/2%, let it mature in three months, and then reinvest it for another three- month period. (See Table 1.)

Table 1

Example A		
Purchase a three-month maturity	@	6.5%
Roll-Over at maturity to another three-month maturity	@	6.5%
NET INTEREST/Million		$32,000
Example B		
Purchase a six-month maturity and hold to maturity		7%
NET INTEREST/Million		$35,000

Note: In Example B, you earn an additional $2500 worth of interest and save the time that was spent in Example A, on re-investing after the first three-month item matured.

(Since banks make money on your money by investing at rates above what they pay you, you may begin to understand why you are often advised to use the rolling approach, on which you earn less interest.)

To equal the return available simply by buying the 6-month T-Bill at a 7% yield, you would need to earn 7-1/2% on your second 3-month investment if the 3-month selection is chosen. Would you really expect 3-month yields to increase by 100 basis points within a 3-month period? This type of interest rate movement is rare. The rolling approach is active and aggressive, but not necessarily conservative or lucrative. There are times when unstable economic conditions make it very wise to stay out of the markets and use the short roll approach. However, this illustration shows how combinations of various investment philosophies can provide better returns with less effort.

The matching approach to investing potentially offers better returns and saving of time. But there is also a potential for now-untapped

earnings. If you purchase investments that have liquidity and can sell those investments before they mature, you have an option that can add additional portfolio returns. Let's look at a simple example of how to take advantage of selling early as an additional philosophy complementing the matching approach.

Assume the purchase of a 6-month T-Bill generates a 7% return if held to maturity. Assuming that rates stay about even, in three months the original 6-month T-Bill, in reality, becomes a 3-month T-Bill, which, according to the previous chart, is yielding 6-1/2%. If that T-Bill were sold after being held for three months, the actual return on that T-Bill for the time it was held would be 7.52%. (If the original amount invested were $96.62, the amount received when sold at 6-1/2% would be $98.44. When the difference is annualized or multiplied by the number of days held and divided by 360, it equals a 7.52% return. The following formuli give equations for calculating price and yield for T-Bills.

$$\% \text{ Price} = \frac{1 - \text{discount} \times (\text{actual days to maturity})}{360}$$

= percent of par value

(Multiply that percentage times the face amount for the dollar discount total.)

Bond equivalent yield represents the conversion from the T-Bill discount yield into a yield which can be compared to the yields of other securities. Think of bond equivalent yield as representing the United Nation's headsets, where no matter who says what in what ever language, everybody understands. To calculate bond equivalent yield for bills less than 6 months, the formula looks like this:

$$\text{B.E.Y.} = \frac{365 \times \text{discount}}{360 - \text{days to maturity}}$$

To list all of the many calculations used for the variety of yield and price calculations in this set of chapters seems unnecessary. It would be advisable for each official to find a publication that contains these calculations if for no other reason than to have a better appreciation of the way that securities are handled.

The return in the selling of the previously mentioned T-Bill is 52 basis points better than the original purchase yield. In fact, if interest rates are unchanged and the yield curve has a positive slope to it, selling

T-Bills prior to their maturity will always offer a better holding period yield than the original purchase yield. Often, in the short amount of time left for investment of the funds, a repurchase agreement (repo) would represent a good choice of reinvestment for the time remaining. Repos usually pay more than very short-maturity T-Bills as we saw earlier.

The same theory holds true for any investment that can be sold prior to its maturity. Ultimately, every security will eventually reach its maturity. But because of price fluctuations and the yield curve phenomenon, you may be able to sell investments before they mature and lock in higher returns.

In the current environment, budgets are tight and the school business official's time is spread too thinly. Better cash flow projections, matching maturities with forecasted expenditures, and selling early if it is profitable should result in your investments taking less time while creating better returns.

CHAPTER 6

ANALYZING INVESTMENT DECISIONS

An Application of Philosophy

An announcement regarding increased trade deficits caused a severe drop in the dollar and a radical decline in both stock and bond prices. Yields on treasury issues have increased by 15-50 basis points. What are the affects of such events upon the average school business official?

Undoubtedly, some school funds had been invested in longer term maturities, perhaps even Ginny Maes or long bonds, prior to this turmoil. These funds have lost substantial principal. Other school business officials invested in very short-term securities such as repos, C.D.s, and state investment pools. They are smiling and acclaiming the accuracy of their respective crystal balls. They will be able to roll over their investments next month at higher yields. Then there was the unique investment manager, who really didn't care what the markets did at all, who was not trying to outguess the future trade numbers or how our economic condition would affect foreign investors' purchase of our treasury securities or what somebody's crystal ball said. This particular type of school business official simply invests funds out into time when they will most likely be needed. If there are excess funds with no immediate specific liquidity requirement, a yield curve is constructed and the funds are placed in a security offering safety, liquidity, and optimal yield.

As a long-term securities buyer, a school business official worries because the issues purchased are below purchase price, or "underwater." They may need to be held to maturity effecting liquidity or sold at a loss, thereby impairing the overall portfolio yield. Conversely, a short-term investor is content to be short-term with yields increasing but must make frequent reinvestment decisions. Transaction costs at the bank and time spent on the investment process cut into time required in other areas; also there is the impact on yield of investing in the short end of a normal yield curve. (There are some exceptions.)

No matter how careful you are, your own beliefs on the future course of interest rates always affect your decisions when you are deciding among the three types of investing mentioned.

The investor in long-term issues obviously believes that interest rates will fall, resulting in additional return in the form of capital gains. (Rates fall, prices rise.) Unless the funds were intentionally invested to match a longer term requirement, principal is at risk. The short-term investor is tacitly stating that he believes that rates will rise dramatically and investment funds will be rolled over at increasing levels of return. The investor who matches expenditures with investments makes the least overt statement as to his beliefs regarding interest rate direction. He expects that this systematic practice simply accepts corresponding yields and removes liquidity as a concern, and can spend time examining alternative investments in the required maturity rather than hoping that a decision will prove correct. Any unmatched funds would allow for an estimate of future rate direction while maintaining adherence to predefined investment policy.

The investment process today is so radically affected by so many uncontrollable factors that the process of investing needs to be continually challenged. This discussion of these approaches to investing does not condemn or condone, but rather serves as a challenge to achieve each person's goals.

Chapter 7

Selecting Investments

Once the investment official selects a time period or maturity needed to meet an expenditure philosophy, an investment can be selected. A useful way to determine the ultimate selection is to assemble a universe of all available or allowable investments that fall within that specific time frame. The following chart may be assembled to assist in this process of assembling investment alternatives.

Days	T-Bills	T-Notes	CD[1]	CD[2]	Bankers Acceptances	Agency Discount	Repurchase Agreements	Repos
30								
60								
90								
120								
150								
180								

To be absolutely certain that the yield you would be receiving on a particular investment is "at the market," you would compare the returns of many other investments with similar maturities. The differences between these yields are commonly referred to as "spreads." A spread is simply the difference or comparison in yield between various investments. The spread relationship is generally based upon several factors. The most common factor is the safety of a particular investment. A Treasury Bill, for example, would generally carry a lower yield because it

is extremely safe and is one of the shortest-term direct government obligations available. Conversely, a noncollateralized Certificate of Deposit yields more because it is not guaranteed to the same extent nor does it carry a liquidity feature. The credit risk chart below provides an illustration of investment safety:

Default risk scale

Risk free

- U.S. Treasury (bills, notes, bonds)
- U.S. Government guaranteed
- U.S. Government agencies
- U.S. Treasury repos (DVP)
- U.S. Government instrumentalities
- Bankers' acceptances
- Collateralized bank CDs
- Commercial paper A/P-1
- Bank CDs (uninsured/uncollateralized)
- Eurodollar deposits
- Investment grade commercial paper

Higher degree of risk

If quotes on Treasury Bills and on Certificates of Deposit were similar, Treasury Bills ordinarily would be the more appropriate investment. T-Bills offer greater safety and liquidity than Certificates of Deposit (assuming the C.D.s are nonnegotiable).

Let's examine the yields of three different investments taken from the yield worksheet and compare the spreads. For this exercise, we shall use Treasury Bills, Certificates of Deposit, and U. S. Agency Discount Issues.

As of 9/6/88

Days	Date	T-Bills	CDs	Agency's Discounts
30	10/6	7.00	8.17	8.13
60	11/10	7.40	8.22	8.19
90	12/8	7.48	8.28	8.28
120	1/5	7.51	8.50	8.36
150	2/9	7.72	8.55	8.42
180	3/9	7.78	8.58	8.47

These yields represent actual returns available to the investor and the instruments may be purchased from a broker/dealer at or very near these levels. These Treasury Bill Issues may be found daily in the Wall Street Journal. The Certificate of Deposit and Agency Discount yields are generally not available, but may be found by contacting the various broker/dealers you deal with.

The Treasury section of The Journal lists the following information across the top:

Rate...Maturity Date.. Bid..Asked...Prev.Day Change.. Yield

The rate defines the coupon rate for each separate security. The maturity date specifies when the investor's principal is to be returned. The bid is where that specific security can be sold and the offer is the price of purchase. The bid change is the difference from the prior days closing quote and the yield is the rate that the security will pay if held to maturity.

The T-Bill section has listed:

Maturity Date...Bid Discount...Offer discount..Yield

The maturity date specifies when the bill will reach final accrual date of interest. The bid discount is the rate at which the Bills are purchased, opposite from that of coupon bids. The offer discount is the discount received if the Bill is sold prior to its maturity. The yield is the bond equivalent yield .

These and other investment possibilities are used to put together the universe of potential investment selections when ever you have money to invest. There is no great mystery as to what the universe consists of.

There are marked differences in the yields assembled on the worksheet. For example, the Treasury Bills yield far lower rates than the Certificates of Deposit maturing in approximately the same period. The spread between Bills and C.D.s in the three- month time period is 80 basis points. (A basis point is l/lOOth of a percent.) However, the yield is the same for both the three-month C.D. and the three-month Agency Discount Note. Therefore, if a cash manager had money to invest for three months, the logical purchase in this case would be the Agency Discount Note. The Agency paper is generally believed to be less risky and more liquid than the Certificate.

To summarize, yields are affected by several factors, the more predominate being liquidity and safety of the investment. The greater the liquidity and safety of an investment, the lower its yield will probably be. The chart below depicts relative liquidity of various investments:

Liquidity scale

Cash

- Overnight repurchase agreements
- State investment pools
- Treasury bills
- Other treasuries
- U.S. government agencies
- Bankers' acceptances
- Negotiable CDs
- Commercial paper
- Eurodollar deposits
- Long-term government bonds
- U.S. agency bonds
- Nonnegotiable bank CDs

Illiquid

Liquidity represents an investor's ability to convert securities into cash on short notice. Generally, the level of liquidity may be measured in the time or trouble it takes to convert securities into cash. An example of an illiquid asset is a nonnegotiable bank Certificate of Deposit; a penalty must be paid to redeem it prior to its stated maturity. The most liquid asset is a checking account or demand deposit, which can be instantly converted into cash without loss of principal.

Safety is associated with the credit of the issuer or the backup of assets to secure the indebtedness. Generally, investments which are less liquid and more risky should carry higher yields to compensate.

Understanding what are normally accepted spread relationships is very helpful for a variety of reasons. The most important of which is to assure that the investment selected by the official is yielding the proper

amount of return given the risk factors associated. One would expect to receive substantially more return when owning a Freddie Mac (FHLMC) over that of a Treasury bond. However, many a trusting official has purchased investments which were not "at the market" because they were told that the investment was the best available. "Covering assets can best be accomplished when knowing that spreads exist. Inquiring as to the spread, the official gives a portrayal of a far greater degree of awareness and investing savvy.

Chapter 8

The Costs Of Doing Business

A large number and variety of investments are now available to the school district cash manager. More investments are created every year. Wall Street seems to continually find a better way to build the mousetrap; some of these may not be suited to your individual investment policies, based on the issuer. An examination of various categories of issuers and their investment menus follows:

Bank-issued
- Time Deposits and Certificates of Deposit
- Negotiable C.D.s
- Bankers Acceptances

Corporate Issued
- Discount Commercial Paper
- Interest Bearing Commercial Paper
- Medium Term Notes
- Corporate Notes and Bonds

Agency Issued
- FHLB (Federal Home Loan Bank) Discounts and Coupons
- FNMA (Federal National Mortgage Assoc.) Discounts and Coupons
- FFCC (Federal Farm Credit Consolidated)Discounts and Coupons
- SLMA (Student Loan Marketing Assoc.) Notes and Floating Rate

U.S. Government Issued
T-Bills (discounts)
T-Notes (Coupons)
T-Bonds (Coupons)

Mortgage Backed Issuers
15-Year GNMA (Government National Mortgage Assoc)
30-Year GNMA
15-Year FNMA (Federal National Mortgage Assco.)
30-Year FNMA 15 Year FHLMC (Federal Home Loan Mortgage Corp.)
30-Year FHLMC
CMO (Collateralized Mortgage Obligation)
CARS (Collateralized Auto Loan Obligations)

Many of these investments overlap in terms of yield. As we have already seen, there may be several investments to choose from within any given maturity. There are also "proper," or standard, yield differences between all of these investments. (We referred to these yield differences as "spreads.") By assembling all of the possibilities, the official can simply select the best available yield in accordance with investment policy.

When an issuer first issues its securities, it is referred to as a "primary" issue. All of the issuers catalogued above are required from time to time to issue new securities for a variety of reasons. The yields offered on any primary offering are largely based on the yields of other similar securities. The new securities are sold in the primary market. Any further trading is done in the "secondary" market. This is where the vast majority of securities are traded. From the issue date until maturity date, most securities may be bought and sold on the secondary market. The value of each security is affected by market conditions, interest rate fluctuations, international affairs, and supply and demand.

The buyer of securities generally pays the price "offered" and sells at the "bid" value. The difference between these two levels is also referred to as the "spread." It is between the bid and the offer that dealers in these various investments make their commissions. Before we examine commissions, let's examine the pricing of several investments.

Price Calculations: Treasury Coupon Securities
Buy: US Treasury Notes 6 1/8% 1-31-89
Amount- $2,000,000 Face Price 99.18 (Prices are quoted in 32nds)
Settlement 2-20-87

99.18 = 99 + 18/32% of Par
= .995625
YTM = 6.365%
Principal = $2,000,000 x .995625
= $1,991,250

Accrued Interest:
SD = Settlement Date purchased = 2-20-87
ID = Issue Date of Security = 2-2-87
LPD = Last Coupon Payment Date = 1-31-87
NPD = Next Coupon Payment Date = 7-31-87

Accrued Interest = Face x coupon x SD-LPD (or ID)
= $2,000,000 x .06125 x 18
= $6,091.16

Total Cash Required = Principal + Accrued Interest
=$1,991,250 + 6,091.16
=$1,997,341.16

Price Calculations: Agency Coupon Securities
Buy: Federal Home Loan Bank 8.90% 11-25-88
Amount - $2,000,000 Face Price 103.28 Settlement 2-20-87
103.28 = 103 + 28/32% of Par
1.03875
YTM = 6.528
Principal = $2,000,000 x 1.03875
= $2,077,500 48
Accrued Interest:
SD = Settlement Date Purchased = 2-20-87
ID = Issue Date of Security (N/A)
LPD = Last Coupon Payment Date = 11-25-86
(For Agency Securities, all months are assumed to have 30 days. All calculations are based on 30 day months.)

Accrued Interest = Face x coupon x SD - LPD (or ID)

November	= 30 days	Actual days	= 87 days
December	= 31 days	30 Day months	= 85 days
January	= 31 days		

= $2,000,000 x .089 x 85
= $42,027,78

Total Cash Required = Principal + Accrued Interest
= $2,119,527.78

Price Calculations: Discount Securities
Buy: US Treasury Bill 8-13-87 Settlement 2-20-87
Amount $2,000,000 Face Discount rate - 5.69
SD = Settlement Date MD = Maturing Date
Dollar Price = Face x (1- (MD-SD) x discount)
= $2,000,000 x (1- 174 x .0569)
= $1,944,996.67

Bond Equivalent Yield:
(182 days or less to maturity)
BEY = 365 x discount
= 365 x .0569
= 5.932%

C.D. equivalent yield (used on agency discounts and BA's) uses the same formula, except that 360 is used as the number of days, rather than 365.

Commission

The difference between the offer and bid, or buy and sell points, is referred to as the "spread." Typically, the tighter the spread, the smaller the commission to the broker or dealer. Larger spreads reflect carrying costs and volatility risk. Even stocks have spreads, although the commission is usually added as an extra cost. With most investments the school business official makes, the commission is included in the buy or sell price and this is referred to as a "net transaction." Because the trade is done "net," the purchaser will never really know the commission amount unless he asks. The yield quoted is "net" of any costs to the investor.

Let's examine some actual commissions generated on two different types of securities, T-Bills and Ginnie Maes. On a $5 million purchase of a three-month T-Bill, the normal commission generated is one basis point (1/100th of a percent). Any more than that amount of commission greatly affects the yield on such a short-term security. The gross commissions generated would be approximately $126.38. The broker usually nets 30% or so, or $38.05 for a $5 million transaction. A Ginnie Mae is priced, for example, at 99 8/32 bid, 99 12/32 for an offer, or 4/32 spread. A low-end commission for a GNMA is 1/32 or 2/32 but can be as much as 8/32 and higher. A 2/32 commission on a $5 million purchase is $3,125 gross. After the usual split the broker nets $937.50! Not bad for one phone call — $937 versus $38. It becomes rather obvious why brokers try to get investors into GNMAs and SBAs rather than T-Bills and BAs.

The point of this exercise is to illustrate that investment input

from outside sources may carry with it certain bias. These biases are generally related to the issue of commissions and commissions can impact yields and returns to investment portfolios. Realizing this potential for conflict, the official may wish to develop investment decisions more on an internal basis rather than relying only on outside investment input. If you receive outside input, you may wish to inquire as to what commissions are being charged. (I challenge you to get the bank to divulge the spread it may be making by reinvesting your proceeds.)

Many officials receive frequent calls from brokers located all over the country. Some of these dealers are offering high rates of return and usually seem to be in some form of panic. The reasons for this sense of urgency is graphically portrayed in a novel by Tom Wolfe called Bonfire of the Vanities. I recommend this book for reading to relate to the reader what life is like in the trading departments of most securities firms. Having been in that environment, I can assure you that some of the events that took place in those trading rooms are quite accurate. The broker/dealer can have a difficult time changing gears from talking or yelling with the bond desk to discussing with the small school official, the investment options open to that official. When the sense of urgency seems strong, just remember, there is always another street car, always another equally good investment opportunity.

Getting the Best Prices

The single best way for an official to be certain that securities they purchase are at the market is to bid out your security transactions. By asking several broker/dealers for bids or offers every time transactions are required, you improve the prices at which the quote takes place because several people are trying to win the trade by giving the best executions. We shall examine the broker's and banker's roles as investment advisors more fully shortly but let us look at another tool that will assist you in becoming more autonomous.

Chapter 9

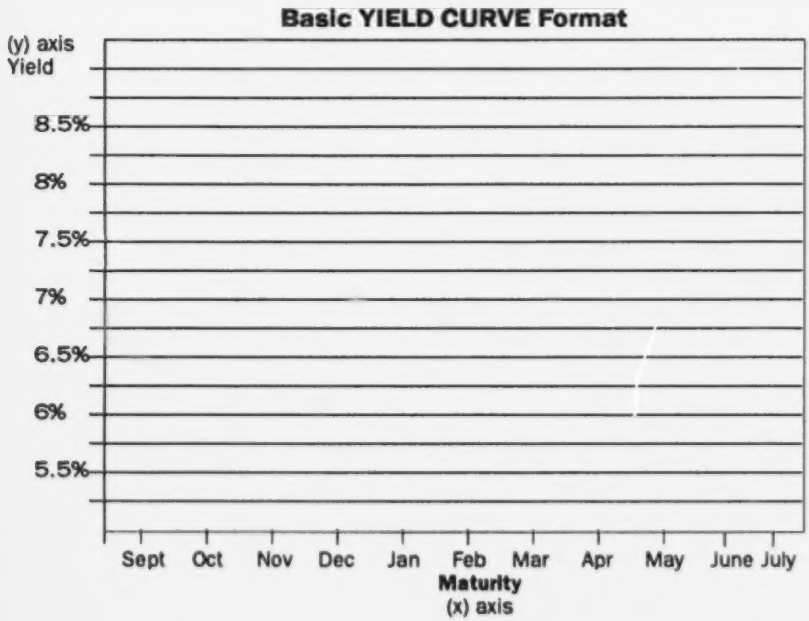
Yield Curves

Understanding spread relationships is a very important aspect effecting the selection of investments. These spreads can be graphically portrayed for easier examination. Once you have assembled the yields of various investment alternatives, a very useful tool can be created. By simply plotting these yields on a graph, the yield curve can be utilized. Therefore, the yield curve is a graphic portrayal of what returns are actually available on a given date. The investor can determine the spread relationships between various investments by assembling data from the work sheet used earlier. Or the data can be transferred into graphic form. Perhaps a more easily read format of selecting investments becomes available. Let's use the worksheet data used earlier to construct a yield curve.

As of 9/6/88

Days	Date	T-Bills	CDs	Agency's Discounts
30	10/6	7.00	8.17	8.13
60	11/10	7.40	8.22	8.19
90	12/8	7.48	8.28	8.28
120	1/5	7.51	8.50	8.36
150	2/9	7.72	8.55	8.42
180	3/9	7.78	8.58	8.47

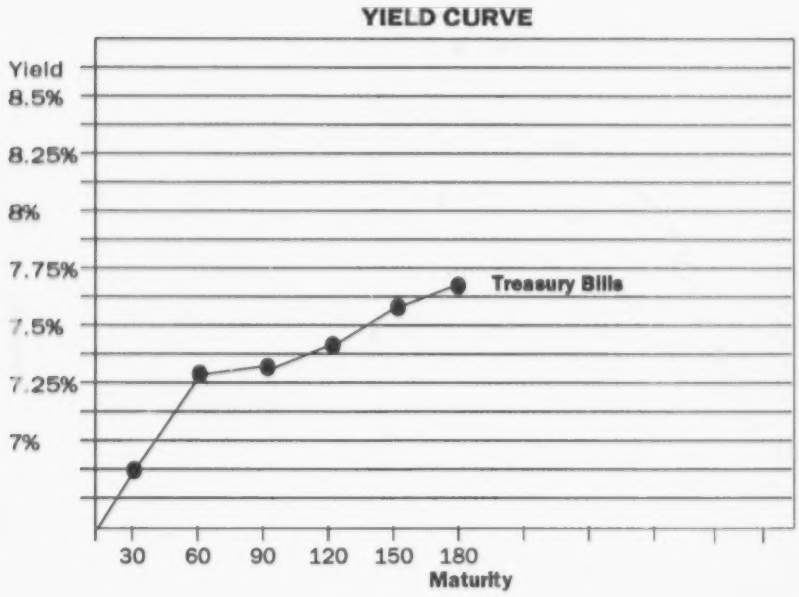
The yield curve represents the simple plotting of investment opportunities from one date or starting point to another. Either weekly or monthly yields may be used as the points for plotting. By connecting the points, a yield curve is formed. You can create a basic X and Y axis chart and then fill in the yield on the vertical or Y axis and time period along the horizontal or X axis:



By selecting the yields of investments that correspond for the 30 day, 60 day, 90 day and so on, and plotting the yield, you create a series of points which represent the investment opportunity available on a particular day. Earlier, our Treasury Bill yields for 30-180 days were:

DAYS	YIELD
30	7.00%
60	7.40%
90	7.48%
120	7.51%
150	7.72
180	7.78%

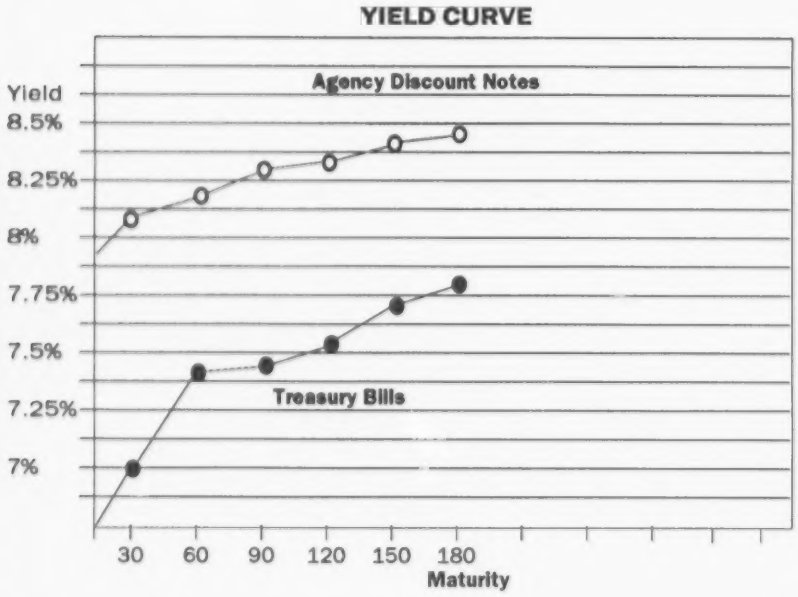
If you plot these Treasury Bill Yields and connect the points, you end up with a yield curve such as shown below:



The Agency Discount notes we examined earlier had the following yields:

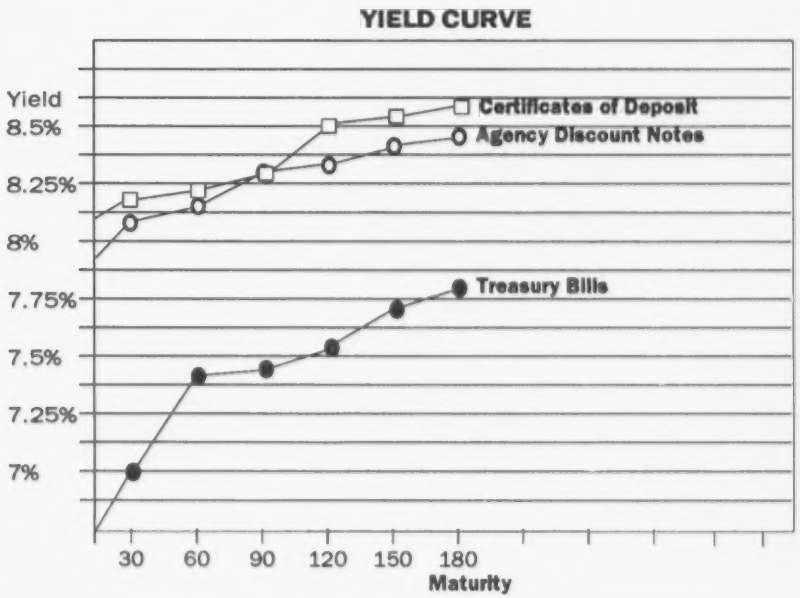
DAYS	YIELD
30	8.13%
60	8.19%
90	8 28%
120	8.36%
150	8.42%
180	8.47%

If we plot these yields over those of the Treasury Bills, we end up with this curve:



The spread between Treasury Bills and Agency Discount Notes becomes graphically obvious. The difference is commonly referred to as "basis point pick up." In the case of the 30-day spread, for example, the basis pick up in the Agency over the Bill is 113 basis points. One might consider this to be an acceptable difference given the short maturity, despite the credit differential.

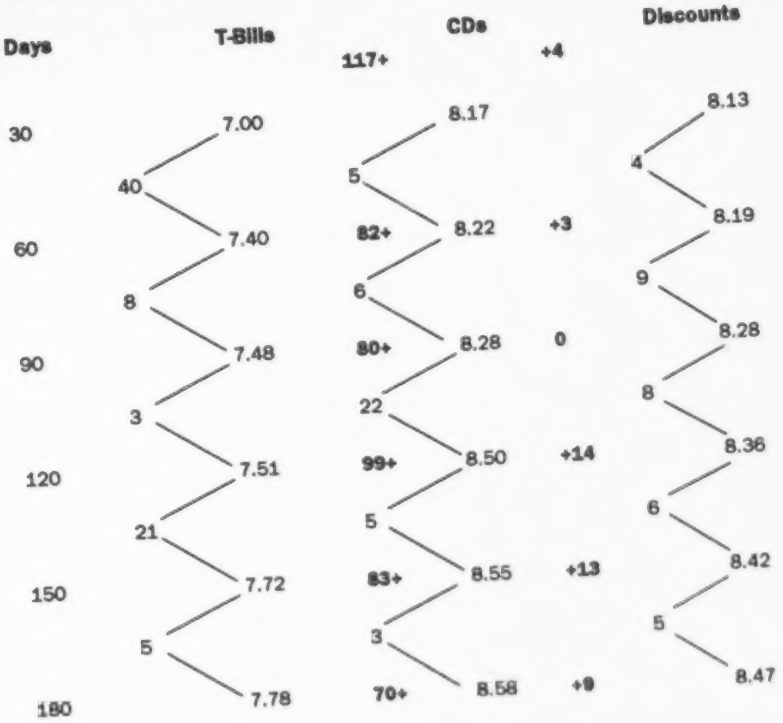
Finally, we plot our Certificate of Deposit rates on the same graph and the results appear thus:



As you can see, the real interest in this example lies in the comparison between three-month Agencies and three-month CDs. One would expect to select the Agency Discount paper over the CDs in the 3-month range, but may be tempted into the CDs in the 4-month area because of a 14 basis point advantage. The 5-month spread between CDs and Agencies is 13 basis points, which also may be attractive but narrows to 11 basis points in the six-month area. Further scrutiny reveals the advantages in extending month to month in maturities within the same investment. With this in mind, the largest difference in the C.D. curve is the 22 basis points between the 3 month and the 4 month C.D. However, in the shorter term, there is only a six basis point increase from 2 months to three months. On the extension or longer term approach there is only a 5 basis point increase from 4 months to 5 months. Therefore, the optimal advantage point on this curve lies in the 4 month C.D. There is a 14 basis point spread in the C.D. over the agency in the 4 month time period, so there is no reward for extending beyond the 4 month maturity.

Let's take another look at the table of yield along with the three curve graph. As we are now aware, there are not only spreads between different investment alternatives, but also between various time increments within one investment itself. The data chart on the next page now illustrates these various spreads:

As of 9/6/88 Agency



To summarize

30-day CDs
- — T-Bills +117
- — Agency +4

60-day CDs
- — T-Bills +82
- — Agency +3

90-day CDs
- — +80
- — Agency 0 (even)

120-day CDs
- — T-Bills +99
- — Agency +14

To summarize the investment decision given this particular set of data, the 4-month C.D. appears to be a reasonable choice. Recall from the chapter on cash flow forecasting that creating accurate maturity dates allows for more precise investing. The selection is based on the evaluation of other investment returns as they compare to each other and within one investment type.

This decision may also tacitly imply many things. If you assume that the school official had flexibility as to the maturity selected, the selection represents a proper analysis of yield curve opportunity. Maximization of overall spread relationship was used as criteria for investment selection. If the official was matching an expenditure with a maturity, then the selection of the C.D. indicates that the official expects to hold the investment to maturity and rules out liquidity as a prerequisite. This assumes that a hold to maturity will occur.

If you refer to the cash flow forecasting chapter, you may recall that creating accurate maturity dates allows for more precise investing. We see in this example, that the simple extension of one month increases the return of the C.D. by 22 basis points. This may help you to better understand why short term rolling over matching as a general philosophy to investing, may not always be as conservative as it may seem. As a consideration for an active portfolio manager, you may decide that interest rates are abnormally high at these levels and believe they will fall over the near term. If you select the C.D. for purchase, realize that you are locked in for the entire maturity. However, if you purchase the Agency Paper, you may sell prior to maturity with no penalty.

The Agency Discounts will yield the rate at which they were purchased if held to full maturity. However, if rates fall prior to maturity, the overall return should exceed the original rate of return to maturity. Conversely, if rates increase, the return may dip below the original rate quoted, but will be completely paid, if held to its final maturity. The active manager could purchase equal amounts of both CDs and Agency Paper knowing that both will mature with yield intact. If rates fall prior to maturity, the Agency Paper could be sold prior to maturity with an overall basis point pickup above that of the originally stated maturity rate. Again, these ideas represent combinations of various investment philosophies.

Liquidity is desired with an investment selection because the official wishes to leave open the potential for added return. The question as to what investment should be purchased to replace the original investment is answered with "Swap Analysis."

Swaps

The swap represents a valuable option that can be used by the cash manager to maximize portfolio returns. However, the swap represents trading activity because a security is sold and another bought to replace it. Therefore, the final statistical result of the swap needs to bear out a definite economic advantage to the portfolio. If the real end-result does not produce an overall advantage, the cash manager risks liability and scrutiny. The appearance of churning or excessive trading may be misinterpreted as risky and over active for the municipal portfolio which is generally perceived to be more conservative than its private counterpart. With these thoughts in mind, it seems appropriate to analyze the details of a swap and offer guidelines for using swaps.

There are several different types of basic swaps. The most classical form of a swap assumes that the same type of security is bought as is sold and that maturities of both are about the same. Therefore, the maturity and quality of the investment remains constant. We shall use this classical swap format as the basis for this initial evaluation. (Later on, we will explore other types of swaps.) One reason for executing a swap is that the originally-invested funds in one investment can be reinvested in a better yield-to-maturity than the original security has from swap date to maturity. The break-even reinvestment rate formula is used to approximate the rate which must be exceeded in order for the blended result to be beneficial or positive. The formula is:

Original YTM * Days from purchase to maturity - Holding Period * Days Held / Days from swap to maturity. The break-even rate must be exceeded for the swap to be better economically than if the original investment were held to maturity. Time is an important element of the break-even reinvestment rate. The longer the time that the original investment (A) is held, the greater the impact the original purchase yield will have on the overall swap. Often, where (A) has been held for longer periods, the purchase side of the swap (B) requires an even greater yield than that of the yield for security (A). Many times, this initial component of swaps is where the swaps analysis stops. The cash manager discovers that the reinvestment rate needed in (B) exceeds the rates that are available in that specific time period. The desired break-even rate is unattainable and therefore, if the classical swap is the approach to be taken, no swap can occur. Executing a swap that results in a lower overall return over that of the original investment, contradicts the essence of the swap. If an official executed a swap that did not net a better result, a liability would surely occur.

However, assuming that the break-even rate can be exceeded in an alternative investment, the swap can proceed. There are several elements that must be considered. First, the classical swap generally involves the use of the sale proceeds from (A) to be used to purchase (B). Money will be returned, (referred to as a take-out) if the buy side requires less capital. Conversely, additional funds or a "pay up" can be required in order to purchase the next highest $5,000 increment of the new security. One would expect when selling a 1,000,000 dollar face Treasury Bill and buying a current coupon T-Note, that additional funds could be required to equal the 1,000,000 dollar face amount in the note position. While this is true, you should only use the proceed amount of the sale for repurchase. The pay-up or take out amounts plus or minus interest earned during the remaining life, must be considered for an accurate final accounting of the overall swap.

Finally, the reinvestment rate of coupon interest received during the life of the swap must be included. The current overnight repo rate or an average expected earnings rate to Horizon Date, may be used to calculate interest earned on the coupons received.

Classical swap analysis also assumes that the shortest of the two security's maturities is used as a final maturity. This is referred to as the horizon date. Therefore, if (B) has a two week longer maturity than (A) you must assume that you will sell (B) on the original maturity date of (A). To do this, a straight line cost is needed for (B) which can be derived from what current yields to maturity are for (B) given the "horizon date" selected. Therefore, in this example, you need to determine what 2 week paper yields. This also assumes that rates do not change until then. From this, the estimate of (B)'s value at (A)'s horizon can be determined. Often, security (B) is held to maturity anyway especially if its maturity is within days of (A)'s original maturity. If (B) has a shorter maturity, you would also be shortening maturities. This swap makes a new statement as to your beliefs about the direction of interest rates. Why? Because shortening maturities is generally done when rates are expected to rise. This is because there is less risk to capital in shorter term investments.

It should be clear that swap analysis can produce different results due to the many variables involved. However, these assumptions are required for the analysis to credible. Let's review now an actual swap and highlight the known from the assumptions in order to get an appreciation of how important it is to consider all of the variables.

The following security and its original purchase information is detailed.

ID#	Buy Date Settlement	Face Amount	Descrip.	Coupon	Maturity	Buy Price
1007	08/15/89	$1,500,000	US Tsy Notes	7.250	03/31/90	99.0376

Issue Date = 03/31/86

Enter face amount to be sold:	$1,500,000
Enter the sale price: 100	$100.0000
Enter Settlement date of the Swap (mmddyy):	11/29/89
Enter the reinvestment rate:	8.2%

This Treasury Note was purchased on August 15, 1989 at a price of 99.0376. The maturity is March 31, 1990. The buyer is going to sell the entire position of $1,500,000 as the face amount to be sold. The sales price is par or 100.000 and the settlement date of the trade is 11/29/89. The reinvestment rate of 8.2% is an overnight repurchase agreement rate available on 11/29/89. This is an assumption and could certainly change between swap date and horizon date. There is not a coupon payment occurring between swap date and horizon date to worry about a coupon reinvestment, but if extra dollars go into or come out of the transaction, a return on those dollars must be factored into the overall equation.

ID#	Buy Date Settlement	Face Amount	Descrip	Coupon	Maturity	Buy Price
1007	08/15/89	$1,500,000	US Tsy Notes	7.250	03/31/90	99.0376

Sale Price/Yield = 100.000/ 7.164%

Original Yield to Maturity = 8.840% Swap Settlement= 11/29/89

Holding Period Yield = 10.680% Days Held = 106

Yield Change = 1.840% Days to Maturity = 122

Gain = $7,724 Breakeven Reinvestment = 7.242%

Note: You may think the sale yield of 7.164% is incorrect, since this Treasury is old at par, but that figure is the correct yield on the monroe calculator. The 9 basis point difference reflects a conversion of the bond equivalent yield to a money market yield on coupons less than 6 months in maturity.

There are some calculations required before the analysis can begin to take shape. The proposed sales price of A is quoted as 100.00 which gives us a holding period yield (internal rate of return) of 10.680% for a 184 basis point pick up over a 106 day ownership. This translates into a dollar gain of $7,724.00. Therefore, because of this price appreciation, we could reinvest these proceeds for the remainder of the time (days to maturity of 122) and if we could beat the simple interest rate of 7.24%, there should be an advantage to this swap. (The break-even reinvestment rate is most accurate in shorter term maturities because this rate is an estimate which uses some future reinvestment rate assumptions. The less time involved in analysis, the less the impact of reinvestment.)

We must now look at investments maturing in the same time frame as (A) or 3/31/90, to determine if the break-even reinvestment rate is attainable. The following are various securities available on 11/29/89. As you can see, the 1,2, and 3 positions are agencies followed by the better quality Treasury paper. There is a 23 basis point pick-up in the Federal Home Loan 7.30% coupon over that of the Treasury Note 7.25% coupon.

Investments Maturing 03/01/90 to 04/15/90. Prices of 11/29/89.

Issue	Rate	Maturity	Ask Price	Yield
1 Fed Home Loan Bank	7.300	03/26/90	99.20	8.220
2 Agency Discount Notes	N/A	03/01/90	7.83	8.170
3 Agency Discount Notes	N/A	03/31/90	7.73	8.120
4 Treasury Notes	7.250	03/31/90	99.22	7.990
5 Treasury Bills	N/A	04/12/90	7.58	7.950

For this swap to be purely classical, the sell of (A) Treasury should be replaced with another Treasury (B). Indulge me in this departure

When I was a broker, swaps were recommended which changed credit when a substantial enough spread between Treasuries and Agencies occurred. There are several factors that tend to widen or narrow these spreads. A shake-up in some agency that sends concerns over credit worthiness like the Farm Credit scare in the mid eighties is one. This sent these FFCB issues to spreads almost 175 basis points over equal maturity Treasuries.

Another reason for widened spreads can be a massive exit or selling of a particular security such as in early 1989, when the S&Ls were selling off their mortgage paper like Fannie Mae and Home Loans to create needed liquidity. I am not against a credit swap where these types of aberrations are taken advantage of. But you should formulate specific basis point advantages when doing credit swaps. I would also advise perhaps setting some maximum percentage of allowable security types like agencies to assure prudent diversification within the portfolio.

Conversely, when Treasury/Agency spreads narrow or when a Agency is yielding less than a Treasury due to a temporary aberration, the agency is then considered to be rich. It is yielding too low a rate based

on its price being too high. In this case, the agency could be sold and replaced with a Treasury that was perhaps cheap. These situations do occur but are normally corrected quickly by arbitragers who specifically watch for such temporary situations. It is rare that a public official will ever be in a position to own the rich investment, or be able to act fast enough to reap its benefit.

In this case, we will choose to replace the Treasury with the Fed Home Loan Bank paper. This is a credit swap but not a maturity swap because they both mature at about the same time. Also be aware that you can almost always realize an advantage in a credit swap as long as you were not selling (A) at a loss. Some brokers might try to get you to disregard a slight loss, and encourage you to extend for some gain attempt through an interest rate decline. This is not swapping, it's speculation. You always need to consider dollars in, dollars out.

O.K. Back to our swap.

Example D:

Swap Settlement = 11/29/89 Reinvestment Rate = 8.200%

Horizon Date = 03/26/90

Face	Descrip.	Coupon	Maturity	Sell/Buy Price	YTM	Horizon Price	YTM
Sell Bond:							
$1,500,000	Tsy Note	7.25	03/31/90	100.000	7.16%	99.998	7.16%
Buy Bond:							
$1,505,000	FHLB Notes	7.30	03/26/90	99.625	8.22%	100.000	8.22%

Decreased Days to Maturity = -5 Days to Horizon Date = 117

	Sell Bond	Buy Bond
Principal:	$1,500,000.00	$1,499,356.25
Accrued Interest:	$17,925.82	$19,226.38
Total Proceeds/Investment:	$1,517,925.82	$1,518,582.63
Pay Up:		$656.80

The sell bond and buy bond data is given in example D. The principal proceeds and accrued interest on the sell side of the Treasury produces $1,517,925.82. The cost of the FHLB notes is 99.625. Therefore, with

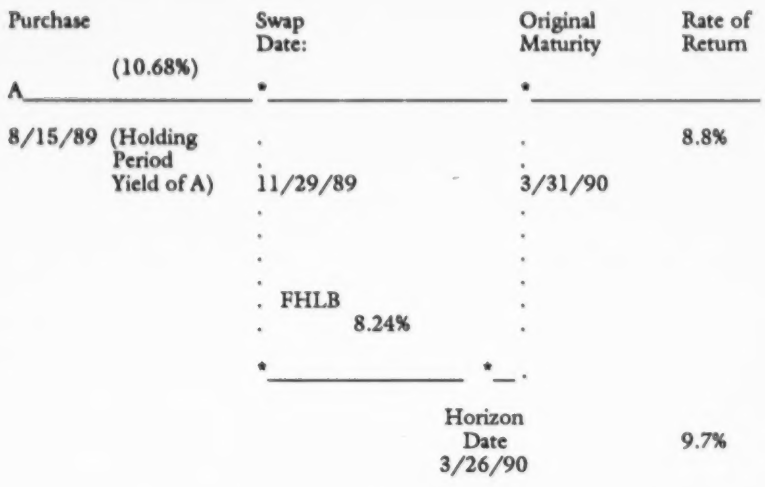
accrued interest to pay of $19,226.38, we could purchase $1,505,000 worth of the FHLB notes if we "pay up" $656.80. Coupons trade in $5000.00 denominations.

There is a five day reduced maturity in the FHLB note so this maturity is normally used as the horizon date. If you set the horizon date as the original maturity of 3/31/90, you would assume an additional 8.2% rate earned on the proceeds of the FHLB for five days. Let's examine the final results.

Cash Flow and Yield Analysis to Horizon (03/26/90):

	If Sell Bond is Held:	If Sell Bond is Swapped:
Principal Received:	$1,499,965.63	$1,505,000.00
Coupon/Accrued Interest:	$52,881.18	$54,932.50
Reinvested Interest (8.200%):	$0.00	$0.00
Less: Pay Up Plus Interest:	N/A	- $674.11
Total Proceeds:	$1,552,846.81	$1,559,258.39
*** Advantage to Swap:		$6,411.58
Internal Rate of Return from Buy Date:	8.888%	9.710%

As the statistics show, if (A) had been held through to maturity, the proceeds would have been $6,411.58 less than the proceeds of (B) to horizon. If you recall, the original Treasury issue owned was sold at a 10.68% return for its holding period and generated the $7,724.58 gain at our swap date of 11/29. If held, the Treasury would have gone on to pay a real rate of about 8.8%. However, due to the impact of the gain at swap date, the overall return from the original purchase of the Treasury (A) to the eventual maturity of the FHLB (B) is 9.710%.

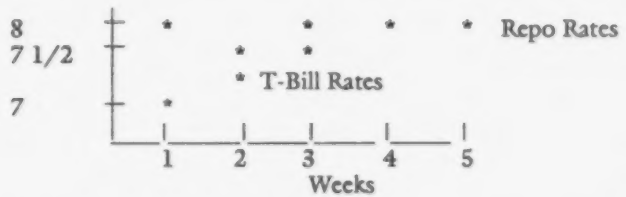


The combined rates earned between first purchase and swap date and swap date and horizon date is a departure from what more consider to be "real" swap analysis. Some believe that it only matters what occurs on earnings from swap date forward. This may be fine for Wall Street, but most officials I know see this transaction as connected. That is, you originally bought (A) to fulfill a need through to 3/31/90. The swap was done to enhance the returns between original purchase and maturity. The same dollars were involved. I believe that the segments and overall returns require attention.

There are two basic classifications of swaps. These are active and passive. A passive swap results from two primary events. The first, arises when two securities of similar maturity and credit quality are in a temporary condition of disparity as discussed earlier. This means that due to

some technical aberrations, one security is yielding more than another. This can be due to many factors, among which is supply and demand. A security which is in excess supply would tend to be of less value than the security which is sca...rce. If the security owned was yielding less than another of similar maturity, this rich/cheap relationship could justify the possible swap out of the lower yield into the higher yield.

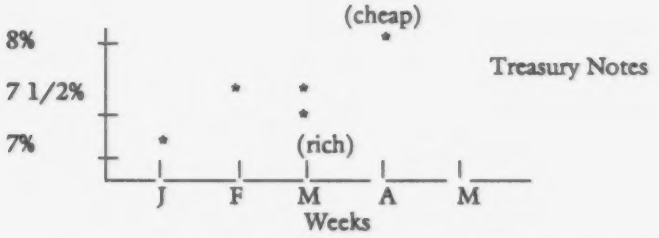
The other example of a passive swap is when the security owned is near maturity and its holding period yield is substantially higher than it would be if held to maturity. An example of this is when T-Bill yields fall off dramatically in very short maturities, but where the curve of such alternative investments, like repurchase agreements, remains much higher. In this case, the T-Bill may be sold a week or two before maturity and the proceeds reinvested in the much higher Repo rate. (Repo rates are effected by Federal Funds which can be higher than T-Bill rates.) Even though the repo is a different investment, the credit swap question is less of an issue due to the extremely short period to maturity.



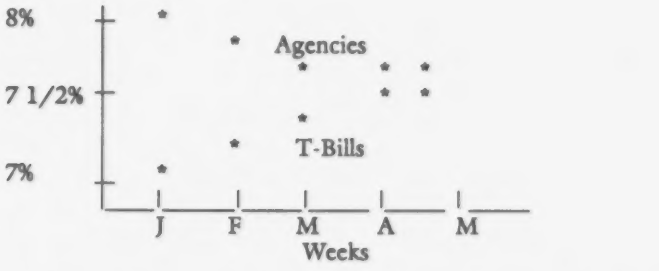
Both the rich/cheap and yield curve swaps represent a pure statistical reason for evaluating a swap. Neither case makes any statement regarding rate direction nor represents a dramatic quality change to the portfolio.

Active swap analysis is however made up of many components which make statements about interest rates or require basic changes to the complexion of the portfolio. The following are possible reasons for active swap analysis.

1) Taking a profit in a security due to a change in interest rates.
2) Shortening investment maturities due to a fear of near term rise in rates.
3) Lengthening maturities due to expectation of falling rates.
4) Making changes due to shifting conditions within maturities of the yield curve. Extending out along the yield curve into a maturity which has "cheap" yields relative to other near-by investments. This is usually represented by sudden peaks on the yield curve. Selling (A) to buy (B). This condition is a graphic portrayal of rich/cheap analysis.



5) Number 4 above also incorporates a change in the cash flow forecast conditions where money may not be required as originally planned.
6) The exchange of one security for another especially where the yield curves of the two securities is widest. As below with agencies vs. Treasuries. The spreads here are widest in the shorter maturities.



These basic examples require more of an overt change than does the passive empirical approach.

In order to know when either passive or active swaps are possible, it is necessary to calculate present market value returns for the holding period of the security. You then need to select a positive buy candidate given the break-even rate. Finally, you then need to calculate the final results given the perimeters mentioned earlier.

Many brokers who are "pushing" a swap idea usually are attempting to talk you into taking a profit. The profit exists because the rate at which you bought the investment, is no longer available in today's market. Roughly put, the profit represents the value of receiving the high rate of return to maturity. When taking this profit, mentioned earlier as

an active approach, you can expect to reinvest at a lower rate for the remainder of the horizon. Then, if the gain taken creates a break-even reinvestment rate lower than what the current market is yielding, a positive overall swap result can be anticipated. If however, you are required to buy a less secure investment or to extend maturities in order to receive the necessary buy yield, a more active swap approach has to be followed.

It is possible to sell a security which is in a paper loss position and realize an overall swap benefit. This is usually due to an abrupt change in rates and yield curves. This type of swap is seldom done in the public sector due to political ramifications. However, the yield curve offers the first step towards discovering and evaluating potential swaps. It is in the yield curve that the relationships between similar and different securities are graphically portrayed and where swaps has its origins. Swapping represents activity of trades and can sometimes benefit the commissioned sales person more than it actually benefits the bottom line of the municipal account. Before entering into this type of active portfolio management, the cash manager may want to be able to calculate the results of such trades for themselves or have a program that will review the numbers automatically. Swapping also represents a sharp departure from traditional municipal cash management techniques and is usually ignored and avoided. This is generally because the calculations are difficult and because the official does not want to give the appearance of being active which to many connotes risk. To start with, the cash manager should assume that every purchase will be held to maturity. If you expect to hold all securities to maturity but are able to earn added basis point return because of market fluctuations, you may have the best of both worlds.

At this point you should have a greater appreciation of the relationships between investment policy, the need for accurate cash flow forecasting, and yield curve analysis, and how they can combine to achieve greater returns to the investment portfolio.

Sell:
1,000,000 U.S. Treasury Notes 6.25% 12/31/88

Original Purchase Price	Days Held
Original Purchase Date	Basis Gain/L
Original Yield to Maturity	Today's Sale Price
Holding Period Return	

Buy:
1,000,000 Federal Home Loan Note 7.80% 12/20/88
Purchase Price
Yield to Maturity

Overall Swap Results:
Dollars Added/Subtracted for Swap
Net Dollar Advantage
Basis Point Advantage Over Original Purchase Held to Maturity
Holding Days Differential +/-

There are several criteria for knowing whether such portfolio management is possible. Initially, you need to have investments which are liquid and whose prices can change during the holding period term. Non-liquid investments such as Term Certificates of Deposit, for example, are not subject to any fluctuation because they are purchased at par and mature at par. However, investments which do fluctuate, can drop in value or have their values increase depending of course on which way interest rates are moving. Taking this move into consideration then means that a real holding period yield for each security can be calculated. The recalculation of the real market return will usually vary from the original yield to maturity. The difference between the two yields is, therefore, a basis point gain or loss which has a corresponding dollar gain or loss on paper. This change will be eliminated if the security is held through to its maturity. The following statistics show how a change in price effects the holding period yield. Note that the original purchase price is lower than the market value for 3/9/89.

Buy Date Settlement	Face Amount	Description	Coupon	Maturity	Buy Price/ Discount	Buy Yield
04/15/88	$1,750,000	US Tsy Note	7.625	05/15/93	91.750	9.71%

Price/ Discount 03/09/89	Holding Period Yield	Net Change	Days Held	Gain/ (Loss)
93.750	10.647%	0.930%	329	$9,407

Note that the original purchase price of the T-Note was 91.75 on the buy date of 4-15-88. The price of the same security on 3-9-89 was 93.75. This translates to a dollar gain of $9,407 for a holding period yield advantage over the original buy yield of 93 basis points.

Before selling prior to maturity for basis point pick up becomes possible, the cash manager should be aware of conditions that may distort swap results. As detailed earlier, a classic swap is to reinvest the proceeds of the sell side into a maturity equalling the remaining time to maturity of the new buy-side.

This means that the horizon dates remain constant. Any change in the maturity of the new buy side of the swap changes the nature of that transaction. The extending or shortening of maturities in the new purchase sets a new statement. A maturity swap that extends is saying that the investor believes that rates will fall making the new purchase more valuable because of its lengthened maturity. The existence of a gain would enable you to sell the security early in order to meet the original horizon date, thus matching the original expenditure. Extending the new horizon date might also indicate that the official does not anticipate needing the funds invested, as was expected. To summarize, if maturities change, the terms have changed and that requires a statement of belief as to the future course of rates. Or the cash flow forecast has changed. In any event, an extending swap may place the cash manager in a position of having to predict the direction of rates in order to be successful with this strategy.

Swaps also require consideration of the credit of the issuer of the security. A treasury note sold in order to purchase another treasury note does not raise the credit question. However, if cash managers repurchase a different type of security from that originally bought, they should refer back to the worksheet on spreads. Recall that the lower the credit of the issuer on the repurchase side of the swap (and, thus, the greater the risk), the greater the basis point pickup that should be expected.

Swapping represents activity of trades and can sometimes benefit the commissioned sales person more than it actually benefits the bottom line of the municipal account. Before entering into this type of active portfolio management, the cash manager may want to be able to calculate the results of such trades for themselves or have a program that will review the numbers automatically. However, swapping is an excellent way to add extra returns to a portfolio. Returns that might otherwise be lost if investments are held to maturity. It may be that this tool for maximizing returns is mis-understood by most cash managers and that is the reason why it is infrequently practiced. Understanding the potential and the few areas of caution will allow you to weigh the risks and rewards for yourself.

The volatile markets of today offer more opportunity, but require more flexibility and more carefully thought-through execution than ever before. To start with, the cash manager should assume that every purchase will be held to maturity. If you expect to hold all securities to maturity but are able to earn added basis point return because of market fluctuations, you may have the best of both worlds.

At this point you should have a greater appreciation of the relationships between investment policy, the need for accurate cash flow forecasting, and yield curve analysis, and how they can combine to achieve greater returns to the investment portfolio.

Chapter 10

Professional Financial Relationships

Know Thy Broker

Now that the school official/investor understands how to select the best investment available, we turn to a discussion of the banker and broker who are involved in the process. There is a sign in the Ft. Worth Treasurer's Office that reads "Know Thy Broker." We know that local bankers have clout in controlling a large percentage of the school's investment funds. This leverage may be even greater in smaller towns and rural areas compared with metropolitan areas which can be more competitive. And for the official who purchases investments other than repurchase agreements or certificates of deposit, the broker enters the investment scene. Brokers assist in the purchase and sale of such things as Treasury Bills and Notes, other government issues, and a variety of money market instruments. Banks also can have brokerage capabilities.

The process of communication with bankers and brokers begins simply with the need to invest. The investor may be contacted by a number of brokers and bankers. Their interest is in earning commissions for their companies and themselves. We now examine the relationship between commissions and investment advice for further insights.

For most school business officials, investing represents only one of a large number of jobs under the heading of "finance." (An official once told me that the final item of her job description is: "and any other function so as to properly perform and meet the financial obligations of the district.") Obviously, then, investing may not always have first priority. In addition, the variations of in-house investment assistance available and the investment knowledge of each business official, can create a need for varying levels of outside investment assistance. This is done in an at-

tempt to maximize investment returns. For these reasons, relationships with outside investment professionals are developd or the district officials may choose to simply down-play the importance of maximizing their returns in favor of meeting the myriad of other obligations.

The selection of outside sources of investment help often involves bankers and brokers. It is very important that a relationship of trust develop between the school official and the advisor to allow the official to be confident with investment input. For as we know, the final responsibility for the investing of a district's funds rests solely with the finance officer, regardless of whom investment choices are made by. Your job security could be compromised if you implement poor recommendations.

Bankers usually provide services such as checking accounts, NOW accounts and offer trust department convenience. Typical securities offered by banks include Certificates of Deposits (C.D.s) and Bankers Acceptances. They also have access to money market securities. Bankers do not make commissions (as we usually think of the term), but they make money on the investments that they encourage you to purchase. These investments are very important to the bank since the money is generally reinvested by the bank in a way that offers a greater level of return to the bank than the bank is paying to investors. This differential may be likened to a derivative of commissions. It is also a spread.

The bank investments outlined above normally are short-term in nature and do not usually risk principal, unless the issuer fails. Investors can minimize this risk by keeping the amount invested at or under federal insurance levels, or by requesting collateral in excess of the principal amount and holding it in segregated accounts. When investing in C.D.s, it is advisable to call several issuers to compare the rates offered. Typically, if a bank has no need for cash, its rates will not be very competitive, even though the maturities may be identical.

Bankers may also encourage investment in local banks for the benefit of the community. The bank may lend the funds invested to people in the immediate community, but the bank will normally invest wherever the best yields are available.

The other investment professional that assists the business official is the stockbroker, more appropriately called "fixed income" brokers. These brokers usually recommend investments from a large variety of possibilities, such as Treasury Notes, repurchase agreements, agencies, and secondary C.D. issues.

While a bank's conflict may be the marketing of its own securities, a broker's may be that a commission is generated each time securi-

ties are bought or sold. Therefore, activity is a broker's best friend. Since the largest commissions are generally paid on securities that carry the greatest risks, brokers can be motivated to recommend the frequent trading of riskier investments.

Reasons for Doing Your Own Investment Selection

Commissions can also distort the rates of return that you earn on your investments. For example, the difference of a mere five basis points in the purchase of a three-month T-Bill changes the yield from 5.84% to 5.79%. (Five basis points generates $126 of commission per million.) In order to put this into perspective, the yield change on a one-year T-Bill with one- quarter point added to the cost reduces the yield by 26 basis points. (One-quarter point = $2,500 commission per million dollars of securities). The yield change on a two-year T-Note is 14 basis points, or only three basis points on a lO-year note, all with one-quarter point commission added to the price. The maturity of a security, therefore, greatly determines how much commission can be added without significantly altering the yield. Higher commissions could result in an issue yielding far less than it should, given its maturity. Yields available in other securities with equivalent maturities also would be better as a result of such pricing. Thus, it is obvious that the investor should always have an idea as to what available yields are.

Commissions allow brokers to buy or sell within the spread, then add on to that price, so as to be near the spread maximum. The investor's net cost is that total and is, therefore, slightly higher — and the yield slightly lower — than is really available in the markets.

What generally allows a broker to earn money on a trade is the broker's lower original cost and, probably, a smaller add-on. A trader also may be able to buy at a better price within the existing spread. Or the brokerage firm had the particular issue in its inventory and therefore could sell it more cheaply, or was already looking to purchase that issue to cover a short position and was willing to "pay up" for it. This occurs daily in the purchase and sale of respective government securities markets around the world.

Additional commissions may be added depending upon the amount of work or services the brokers provide their clients. These additional commissions are again more easily added to longer term issues because the yield change is less affected.

As you may now be aware, the commissions you pay for people to execute the securities you require can be substantial. Those costs may be worthwhile if investors are willing to pay for advice that would other-

wise take too much of their time to assemble. That input may be valuable, especially if it continually rewards the district with above-normal returns.

The banker and broker both have dual roles: acting as investment counselor to the public investor, while also recommending the purchase of securities that generates income to the counselor. There are ways to eliminate the potential for conflict. One way is to hire outside investment managers. There may be reluctance to go to this extreme, based on a real and justifiable fear of losing control of the funds — control that the public has entrusted to the official. If you relinquish control to an outside manager who fails, the blame for such failure falls directly on the shoulders of the cash manager. (This blame might have been due to the failure of the outsider to properly oversee the management of funds, but the official will share equal blame nonetheless.) As one cash manager said, "There is a constant preoccupation that weighs heavily on the mind, to do more to maximize each cash manager's own investment return." There is a dilemma in knowing that more could be done to improve investment returns on funds, while still maintaining control over those funds. With so many potential problems associated with the investment process, it is no wonder that many business officials simply throw up their hands and settle on the frequent purchase of short-term investments. One solution is, of course, to hire an in-house investment staff of district employees. We all know that this only happens for a handful of school systems in the entire country. The best way to improve, given the tools already in place, is to attempt to become more autonomous.

Note: It is recommended that you have your broker/dealer submit credentials and information about the broker and the company prior to doing business. A Sample Broker/Dealer Questionnaire has been included in Appendix A at the back of this book.

Chapter 11

COVERING YOUR ASSETS

Finishing Touches to the Investment Process

The investment process is not a difficult one to master. Implementing investment selections simply requires the logical choosing of one security from a group of alternatives. Many professionals seem to make the process more difficult than it really is. Hopefully, we have dispelled such myths.

Investing need not take up an excess amount of an official's time. You hopefully realize now that when you request assistance from outside sources for investment input that those whom you request assistance from can only look to a finite set of investment alternatives from which to choose. You yourself or perhaps a staff member are equally capable of assembling the alternatives and then requesting competitive offerings from a handful of dealers. In creating your own ideas for such investment selection, a higher level of respect will be earned and greater earnings achieved in the savings of fees that might be charged for such service. This basic procedure is referred to as Investment Autonomy. Here is a summary of personal guidelines that may assist in achieving higher levels of autonomy. 72

1. Prepare your own investment research when selecting an investment. This will help eliminate the need for outside investment input which you pay for in one way or another. The time you spend with so many outside people is often redundant and very time consuming. As we saw in Chapter VI, the universe is quite finite and with the tools we described, selection can be done internally.

2. Use competitive bidding whenever buying or selling securities. Doing this will save many dollars in commissions because many dealers will be competing in an effort to win your business. This will result in better executions.

3. Before doing business with bankers or brokers, ask for referrals so that you can substantiate what you are being promised. Contact those other municipal accounts and verify what the dealers are purporting.

4. Submit a copy of your investment policy to whom ever you conduct investing with. Have the entity sign a statement saying that they understand the policy and agree to adhere to its contents.

5. Whenever you select an investment, try to document other competing investment alternatives and their corresponding yields. This will remove the potential for questions as to why certain investments were chosen. If you select a Treasury for investment and its yield is below that of other choices available, you may for example state that you wanted to boost the amount of the 73 portfolio holdings in the Treasury area.

6. Avoid doing business with people promising abnormally high rates of return. As we have shown, these high returns may have higher risks associated with them. Remember, there are no free lunch programs.

Setting Investment Benchmarks

The measure of success in the performance of an investment portfolio can be interpreted differently, depending on various levels of expectation. The returns that a school business official earns from year to year may seem like a success to that official, but others may not feel that the returns were. The official's investment returns will often be gauged as mediocre, regardless of the relative success of the investments made. What is an acceptable rate of return? If you were to poll the members of your school board, the answers recorded would probably be widely varied. This difference of expectation sets two strikes against the official even before the first pitch is thrown. If you were to receive a grade based on the portfolio's performance, your chances of receiving anything above the grade of "C" is very unlikely. However, if you asked the board what level of return they believed was acceptable, they probably would not know. The investment process is challenging enough without this dilemma. Let's look at one way that performance can be measured so that everyone's expectations can be gauged evenly.

If the average maturity in your portfolio is six months, set a return level based on that same approximate time period. It does not make sense to expect two year treasury yields when your average weighted maturity is only six months. You can record the six month Treasury Note or Bill yields on a weekly basis and use the average return to compare against the returns of your own portfolio. In this fashion, the rate of return that you earn will have a realistic level of performance measure. You

may set the benchmark at whatever maturity you desire. With this in place, the official has the chance to get the grade he or she deserves.

Portfolio Performance Monitoring

The new regulations that have been put into place have put increased demands on the official to keep sophisticated records of portfolio performance. There is a large degree of interest in knowing more accurately what the actual status of investments is on a frequent basis.

There are several ways that performance can be measured. This process can take place on simple spreadsheet format, highly complex software programs, and even on legal paper. However, getting consistent market prices for portfolio investments is not only a requirement in many states, but is also necessary for the official if any form of active portfolio management is to take place. Obviously a portfolio of all CDs does not require price updates because their prices do not fluctuate. However, a portfolio of CDs does not represent active portfolio management. The reporting of the returns of those investments needs to be kept and reported upon demand. This reporting is important for any official that wants to determine if any changes could occur within the portfolio that could benefit the investment return. In addition, knowing real returns may be helpful if the official needs to generate liquidity and needs to know which security would represent the best sale. It would be better to sell a security which is at a profit rather than at a loss. Furthermore, the real return of a particular security must be known before any sales occur. Many dealers suggest swap ideas to the official that may not have accurate sale return analysis. There have been occurrences where the official took these numbers for actual when in fact they were not. The results may not have resulted in beneficial impact to the portfolio. The official would be better protected if these calculations were double checked by the officials themselves.

The wave of new regulations set down for the official has with it a couple of very important safeguards that act in protecting officials who comply. These safeguards are Safekeeping and Delivery versus Payment.

The term "safekeeping" refers to the physical location of where an official's investments are kept. In the past, securities may not have been directly held in an official's possession and, instead, were held by the dealer from whom the securities were purchased. As we know from actual experience, there were occasions where these firms used the official's securities for other purposes. This problem was the single most important factor responsible for many of the changes we are faced with today. Safekeeping is just one of those elements that have come under

scrutiny. The official should always have possession of the district's investments in a segregated safekeeping account. This should include collateral for CDs and Repo's but also all outright investment purchases without exception.

Another element designed to cover assets addresses the way in which investments are to be purchased. The process in the past meant that when an official bought an investment that he paid for the securities by wiring money through the Federal Reserve to the broker/dealer. The securities were usually held by the broker dealer. However, when an official's securities were not available or he was continually asked to roll the investment over, suspicions were confirmed that improprieties had occurred.

Delivery versus payment assures the official of not paying for any security until the securities are presented for simultaneous transactions. As mentioned earlier, after D.V.P. occurs, the securities are held in safekeeping for the specific official's own district account.

The bulk of investments today are in book entry form. This format is easier than the old physical delivery system used for all of the reasons the ease of computers have allowed. But the combination of D.V.P. settlements and safekeeping account usage should greatly assist the official in reducing exposure to liabilities.

Conclusion

The success of this set of chapters on investing for School Business Officials will be gauged on the impact that is made in motivating the official to attempt better investment practices. Better is of course a relative term but it would be difficult to think that all officials are currently doing all they can to achieve the best possible returns. I am sure that some think they are.

There are several possible obstacles which may be very difficult to overcome and may actually be out of the control of the official. The first may be the investment policy in the official's individual State. Chances are that the policy itself limits what the official may or may not do in pursuit of the best possible returns. In this instance, the policy must be changed in order for much of what was discussed in these chapters to have much application.

Another obstacle which could temper the success of this chapter is the guidelines imposed by your own governing boards in relation to the investment process. It may be that they are all local bankers and only allow investing in their respective local banks. (How convenient for them). You may be able to use some of the elements outlined even though you can only invest in one type of security. You may also choose to change some of the local parameters allowing you to become more current with the practices that are being used today. Greed, fear, and ignorance are among the many emotions that others may use to shape your investment parameters.

However, if you have the flexibility to use current methods of investing, the material presented may serve as motivation to apply all of your talents in attaining the best returns possible. In any event, with an

understanding of most of the elements that make up the investment process, you will hopefully be able to make that determination for yourself and be satisfied that you did the best possible job. I hope that the investment process will no longer be viewed as an impossible and futile task; rather, that it can be mastered by most school officials in no more time than is currently being devoted to the process. Understanding the components that, when combined, represent the "investment process" and faithfully remaining in a routine can almost guarantee a better performance while reducing the official's liability.

Epilogue

It seems that nothing changes slowly anymore. It might be that the world is getting to be a smaller place due to the technological advances in communications. In the past, news took a great deal of time to be communicated throughout the U.S. Now, computerized satellites transmit news all over the world in a matter of minutes. The sixties, for example, saw President Kennedy promise to have men on the moon in that decade. Though many were skeptical, that dream became a reality. In the world of economics, what nations experienced in their day to day financial affairs was of mild concern to others. Nations in the past were more independent although they shared common trade interests with others. Many students of the depression say that protectionism played a large roll in deepening the financial crisis of the thirties. World War II was fought in part to preserve the European Common Market. Trade was being threatened by territorial fragmenting because of Germany's desire to annex other lands. The war also assisted in pulling the U.S. out of the depression by stimulating industry and creating jobs. The Allied Victory assured continued trade and fostered the future growth of what would become the multinational corporation.

Today, the free world nations are all interdependent upon each other and are intertwined with trading dependencies, debt obligations, and standard currency relationships. Today, Japan's or another nation's concerns over such things as U.S. deficit can impact our dollar and financial markets in a matter of hours. I'm not sure whether the chicken or the egg prevailed, but the multinational corporation has helped bring about the creation of such things as international currency hedges, and euro-dollar deposits. Wall Street does not shut down anymore as brokers man their battle stations and participate in foreign trading while the U.S. sleeps. There is a great chance that the stock market will one day soon,

offer 24 hour trading. Today, this world wide house of cards may be more stable because of its link with other trading partners. Each partner watching out for the other in a spirit of benevolent cooperation because nobody wins the race if one of the lead race cars puts on its brake lights at high speeds. These partners are not apt to betray their allies, however, there certainly have been strong requests made by one nation to another regarding economics. Foreign auto import quotas has to be one example. Another is how other trading partner nations react to the U.S. raising or lowering of its interest rates. Economic embargo's are an example of what can occur should a nation's political beliefs differ too drastically from our own. We have seen this with middle east nations that are considered "extreme". (Libya and Iran are two nations that we and our allies have cut off, excepting of course for an occasional arms sale.) However, so called third world "democratic regimes" have tacit U.S. support as long as stable trade relations and sources of cheap labor continue to keep U.S. manufacturing costs at competitive levels with other world wide manufactures. Many believe that the manufacturing fibre that has so long been the strength of the U.S. is being exported for the labor cost savings. What results is that more of the U.S. GNP is being converted to a service oriented sector. The financial impact of this shift has yet to be measured. Production is being shifted over seas, propagating the multinational corporate structure, a structure that may only in its infancy as we know it today.

This shrinking of world boundaries and increased communication has resulted in a new awareness by the man on the street. Today, a knowledge exists that it matters how foreign nations perceive economic and financial condition. It matters that we continue to spend and run up red ink every year and I believe that others resent our frivolity. We are no longer solely masters of our own destiny. As we enter the nineties, this fiscal irresponsibility represents our largest obstacle to financial security. We must reverse this mentality in order to preserve our future and control of our economic future. The public sector has been effected by repercussions of our past actions in regards to fiscal policy. The government looks to the public sector in a effort to find a source of funding that can be used to help cover our growing deficits. This action has led to changes into bond arbitrage, and taxation of municipal bond income to both the municipality and the private sector. There have been cuts in federal assistance, and losses of some federal financial supports of the education programs in general.

The financial condition of the banking industry has added to the appearance that our financial house is in disarray. There may be many

reasons as to why the banks and S&L's have gotten into such poor financial condition. In the past two decades, much of the problem can be attributable to three main sources. The budget deficit is the largest problem may be a result of some of the following. These contributors are the oil industry, third world debt and the mortgage business. One of these has been responsible for the collapse or failure of banks and savings and loans across the U.S. The lack of planning and foresight of the government in regard to these three elements has cost billions of dollars in the subsequent bail outs that have occured. This has meant that tax dollars have been used to pay for bail outs rather than for reducing red ink.

The oil industry has been severely damaged by reason of an over leveraging effect that came about in the late 1970's and early 1980's. Incredible sums of money were spent buying up production and potential production. As a member of the brokerage business at the time, I recall experts forecasting "50 dollar" barrels of oil by the year 1990. Brokerage firms could not sell enough oil and gas limited partnerships. Many of these programs were leveraged, meaning that two dollars could be borrowed for every dollar raised or some other such ratio. The thinking was that with oil at 15 or 20 dollars a barrel, then, that oil only needed to increase to 25 or 30 dollars for the leverage costs to be absorbed. The buyer could write off three times the investment and if oil went to 50 dollars, a killing would be made. The results you know about. But again, the U.S. always seems to err in favor of excess leverage than in conservative saving. In addition, the leveraged buy out of many corporations had replaced equity with massive amounts of debt. This leveraging is seen as a risk to corporate America by some because there are decreased levels of equity supporting the system. In the oil game, this leveraging had severe consequences. Many banks that had taken reserves as collateral, later had one quarter of the original value left representing the original loans. This left them no choice but to call for more collateral occasionally forcing liquidations of assets to cover the loans.

How ironic that the middle east oil countries that started the oil shortage, today, lack cohesiveness and as a result, have plunged oil prices back to their mid 1970 levels. The oil panic of the seventies marked perhaps, the first time that the U.S. found itself unable to control its own financial destiny. I believe that such an energy crisis will occur again.

Third world debt continues to remain a problem. Not only for the U.S. banking community but for global financial stability as a whole. The U.S. has been a strong supporter of lending financial assistance to developing third world nations since the days of the Monroe Doctrine, but unfortunately we have passed along some of our poor traits in so far

as repayment is concerned. Many debtor nations have simply said that they would not repay the notes. So we in turn soft peddle so as to not shake up the global financial community and instead defer payment until the next generation is old enough or bold enough to ask for repayment. We as a nation have bought many a third world government and paid for many a corporate head quarters with all of these loans. The lending banks are now faced with having to extend or write off these loans or the Government must bail out these banks at the expense of the tax payers. Eventually, we will not be able to bail them out. The impact of this coming day is difficult to gauge. However, it is certain to effect the investor who believes that Federally insured deposits are safe. The average school business official today, believes that Certificates of Deposit with insurance are safer than Treasury securities.

The same overwhelming panic that occured in the oil industry occured in the mortgage industry. But it was the fear of double digit inflation and never before seen gains in real estate values that developd excesses in loose lending practices. Greed has been a common element in many of these problems that will defiantly come back to haunt the investing practices of the school business official in the future. This is because changes will occur to the entire financial fabric. It is painful to endure the effects to the past as one looks to the hope of the future. But we can only learn from these experiences and realize that other similar events are bound to occur as we approach the 21st Century.

What the past is good for is to help one react to events of similar importance in the future, hopefully with proven judgement. As we reach the future, occurrences will not seem overly drastic because events leading up to major occurrences become familiar and take time to develop. Thoughts of oil shortages, world wide banks failures or being effected by economic repercussion out of our control seem very chicken littlish today but may become reality later. But the school official who invests can prevent losses and failures by starting now to become more aware of investment practices that will represent all that any prudent investor can do to prevent such failures in the future.

Lets examine the cash manager's investment practices today and determine what might be changed. The old back yard philosophy went out with the yuppie. Investing in only one local type of investment rather than diversifying is a beginning. This means that owning all $100,000 prices of insured CDs may not be safe in the future. Owning only securities that are backed by mortgage loans may not be prudent. In the worst case, if things become shaky in both the banking and mortgage worlds, owning all direct Treasury securities seems to be the most prudent invest-

ment. After all, if Treasury issues fail, everything else will become moot anyway. You may therefore begin to diversify portfolios. In order to accomplish this, many officials will be required to change current investment policies.

Direct ownership of these securities should be and has already become a rule rather than an exception. Failure of institutions and their repurchase agreements has already resulted in the loss of millions of dollars of public funds. Third party safekeeping agreements have been the result of such past miscalculations of risk and reward.

The business official of the future will probably become more of a inter national investor, purchasing foreign dollar denominated securities. After all, buying Canadian Treasuries occurs frequently in many corporate environments. It is also likely that services dealing with a national placement of CDs will spring up. Credit ratings of broker/dealers will become more important as it has become with banks and other financial institutions. Computers will play an increasingly important role, programmed to follow highly accurate cash flow forecasts. In fact, the investment process is actually a very logical and predictable process. It has always represented a sequence of receiving funds and investing such funds until they are required to cover an expense.

Elements such as political pressures have always played a key influence as to how this sequence is to be implemented. If the politics are removed, the sequence can be simplified. But as long as elected bodies can influence the sequence of steps, cash managers will continue to wrestle with doing what is perceived to be in the best interest of the district. Cash managers and business officials need to develop a comfort level in breaking away from so called traditional investing practices. Traditional could be considered synonymous with antiquated. Whether it is preparation of forecasts, diversification of portfolios, or having acceptable rates paid on overnight balances, any step forward is a very positive step on a path that leads to better performance. The nation, as a whole, is going to have to tighten its belt to pull out of the economic quagmire it has gotten itself into. Complacency has gotten us here. Hard work and an effort to do better through learning will get us out. The effort will provide our children with a safe and enjoyable place to live in the future. I believe this is what our parents and their parents worked so hard for. It is what we work for.

Appendix A:

Sample — Broker/Dealer Questionnaire

HOMETOWN TREASURER
123 Anystreet
Hometown, USA

Official
Broker/Dealer Questionnaire

Brokerage Firm _____

Proposed Broker Representative _____

Date _____

General Information

1. Branch Information:

Broker Name _____

Broker Phone _____

Assistant Name _____

Assistant Phone _____

Branch Manager _____

Manager Phone _____

Branch Address _____

City/State/Zip _____

2. Headquarters Information:

Fixed Income Department:

Manager Name _____

Manager Phone _____

Trading Desk Manager _____

Trading Desk Manager Phone _____

Headquarters Address _____

Headquarters City/State/Zip _____

Dealer Information:

3. Dealer is Primary Dealer _____ Secondary Dealer _____

4. Supply last two years financial statements: Yes_____ No_____

   Date Received _____

5. Is your firm a member of a syndicate group authorized to participate in primary offerings of any agency or money market securities?

6. In which of the following instruments does your firm make a market?

	Type of market maker: Primary	Secondary
U.S. Treasury Bills	N/A	_____
U.S. TreasuryBonds and Notes	N/A	_____
U.S. government agency:		
Coupon Notes	N/A	_____
Discount Notes	_____	_____
Repurchase Agreements:		
Overnight Repos	_____	N/A
Term Repos	_____	N/A
Minimum Amount: $ _____		
Money Markets:		
Domestic BAs	_____	_____
Yankee BAs	_____	_____
Japanese BAs	_____	_____
Commercial Paper	_____	_____
Negotiable CDs	_____	_____

7. Does your company substitute collateral on term repurchase agreements?

8. Please enclose sample copies of:

   Customer confirmation

   Company master repurchase agreement

   Monthly statement

   New account forms and application

9. Have any Municipalities filed complaints with the firm or the broker over the last two years?

   Yes _____ No _____

   If yes, attach a detailed explanation, including information regarding personnel involved, action by the NYSE, NASD or any state agency and any action taken by the firm to correct the situation.

10. Please list periodic research and information publications available:

    _____

    _____

    _____

    _____

Broker of Record Information

11. List the past five years employment history

12. List other state municipalities you are currently doing government security business with.

13. Do you have any relatives or other conflicts of interest that might preclude doing business with any state municipality? Please detail.

14. What professional or municipal associations if any are you affiliated with?

15. Please list three personal references with phone numbers where they may be contacted.

1.

2.

3.

16. Please list any specific training or continuing education activities you participate in which you feel give you special talents for handling this type of account.

17. Are you familiar with bond arbitrage limitations for munici- pal cash managers? Yes _____ No _____

18. What is the percentage of your annual business?

_____ Municipal Cash Managers

_____ Other Institutional

_____ Retail Wire

Transfer Information

19. Who is your clearing bank?

20. Who at the clearing bank supervising DVP wire transfers?

    Name _____

    Phone _____

21. What are the wire instructions for the clearing bank including A.B.A. # and account number?

22. Are there any charges or fees on delivering or receiving of securities from your firm?

All of the information given in this document is believed to be true and accurate. We agree to notify Hometown Treasurer in the event that any of this information changes or our current status as broker dealer is effected in any way. In addition, we have read and understand the investment policy of Hometown Treasurer, and agree to follow its require- ments, understanding that failure to adhere to its investment policy may result in liability to both the broker and the firm.

Signed

_____ Date _____
broker of record

_____ Date _____
branch manager